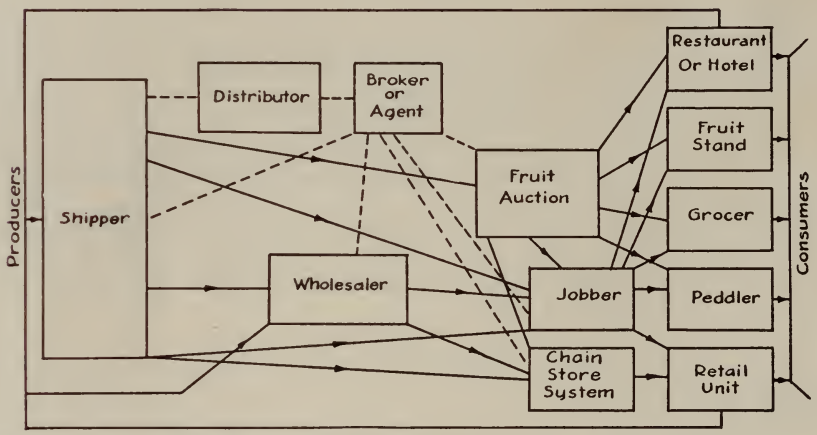
UNIVERSITY OF CALIFORNIA
COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
BERKELEY, CALIFORNIA

# Marketing California Apples

E. A. STOKDYK, H. E. ERDMAN, CHARLES H. WEST AND F. W. ALLEN




TRADE CHANNELS FOR CALIFORNIA APPLES

BULLETIN 501
NOVEMBER, 1930

CONTRIBUTION FROM THE
GIANNINI FOUNDATION OF AGRICULTURAL ECONOMICS

UNIVERSITY OF CALIFORNIA PRINTING OFFICE
BERKELEY, CALIFORNIA

CONTENTS


| | Page |
|---|---|
| Foreword | 3 |
| Summary and conclusions | 3 |
| Trade channels followed by California apples | 10 |
| Trade opinion on market preferences | 11 |
| Variety preferences | 11 |
| Size preferences | 15 |
| Grade preferences | 15 |
| Pack preferences | 17 |
| Container preferences | 17 |
| Color preference for Newtowns | 22 |
| Opinions on packing well-striped Gravensteins separately | 23 |
| The effect of the sale of immature apples | 27 |
| Specific demand for early immature apples | 31 |
| Qualities reported in out-of-state apples not found in California apples | 33 |
| Opinions and practices with reference to the possibility of increasing the demand for apples | 36 |
| Attitude of markets other than those covered by the detailed survey toward California Gravensteins | 46 |
| Consumers' preferences and purchases of apples | 51 |
| Retailers' operations and practices | 66 |
| Wholesalers' and jobbers' operations and practices | 72 |
| Brokers' and distributors' operations and practices | 92 |
| Shippers' operations and practices | 97 |
| Sebastopol district | 97 |
| Watsonville district | 108 |
| Apple districts other than Sebastopol and Watsonville | 116 |
| Growers' financing and marketing problems | 118 |
| Sebastopol district | 118 |
| Watsonville district | 120 |
| Apple storage | 123 |
| Apple supplies and wholesale prices | 129 |
| Retail prices of apples | 142 |
| Acknowledgments | 150 |

# MARKETING CALIFORNIA APPLES[1]

E. A. STOKDYK,[2] H. E. ERDMAN,[3] CHARLES H. WEST,[4] AND F. W. ALLEN[5]

## FOREWORD

The information in this bulletin was obtained in a study undertaken by the Giannini Foundation of Agricultural Economics and the Division of Pomology of the University of California at the request of a committee of apple growers. The principal objects of the study were to gain a comprehensive view of the methods of marketing apples, to obtain information on market preferences, and to determine possibilities for improvement. The major phase of the study was a survey of principal marketing channels from producer to consumer. This survey included the main producing sections of California, the principal distributing centers of California, and a number of large eastern cities. Specific questions were asked of a representative group at each stage in the marketing process. With the exception of a part of the growers' survey the study was conducted by personal interview.

## SUMMARY AND CONCLUSIONS

A fundamental consideration in the marketing of apples is a knowledge of individual market preferences with reference to such factors as variety, size, grade, and pack. This study has shown that different markets have distinct preferences in these respects, although most markets were found to have some preferences in common.

*Variety Preferences.**—In all the markets surveyed the Gravenstein was named as first choice among the early eating apples available.

---

[1] Paper No. 14, The Giannini Foundation of Agricultural Economics.

[2] Associate in Agricultural Economics and Associate on the Giannini Foundation.

[3] Professor of Agricultural Economics, Agricultural Economist in the Experiment Station and Agricultural Economist on the Giannini Foundation.

[4] Assistant Agricultural Economist in the Experiment Station and Assistant Agricultural Economist on the Giannini Foundation.

[5] Associate Pomologist in the Experiment Station.

* Pomologists differ regarding the nomenclature of Esopus Spitzenburg, and whether or not the green and yellow colored Newtowns are distinct varieties. In this publication the most common usage was followed, Esopus Spitzenburg being shortened to Spitzenburg and Newtown used to designate either Green Newtown or Yellow Newtown. Green or yellow where used in connection with this variety are therefore only descriptive of the color rather than a part of the name.

However, the Gravenstein is not equally in favor in all markets. It is not well known by southern California consumers. Eastern markets indicated a preference for the Gravenstein but competition of cheap local apples or low-priced soft fruits has excluded the Gravenstein in some years. Although this variety occupies first place as an early eating apple in all markets, it loses favor in southern California and in New York City as soon as the Jonathan appears on the market. In the northern California markets, the Gravenstein withstands competition from the Jonathan remarkably well.

In California markets the Gravenstein was also named as one of the preferred varieties of early cooking apples. Consumers with medium and high incomes reported using the Gravenstein as a cooking apple as often as they reported using it as an eating apple. In contrast, the Gravenstein is classed almost exclusively as an eating apple in eastern markets. Such varieties as Wealthy, Duchess, Transparent, and Williams Red are used for cooking in those markets and are available at relatively low prices.

Of the late varieties of eating apples, Jonathan, Winesap, Newtown, Spitzenburg, and Delicious are favorites in California markets. Northern California named Spitzenburg, Newtown, and Winesap, while southern California named Jonathan, Delicious, and Winesap most frequently. Eastern markets indicated a preference for Winesap, Delicious, Jonathan, Spitzenburg, and McIntosh.

In California markets, Newtown, Bellflower, and Rome Beauty are preferred late cooking varieties. The Bellflower is the outstanding first choice in southern California while the Rome Beauty, which is used primarily for baking, is most acceptable in northern California. In eastern markets Rhode Island Greening, Baldwin, and Rome Beauty are preferred as late cooking apples.

*Size Preferences.*—In general, the sizes of apples ranging between 100 and 150 per standard apple box are most acceptable in all markets. However, for some varieties used primarily for baking, larger sizes are preferred, and in some markets smaller sizes of Jonathans are received without marked discrimination.

Size preference was reported to vary to some extent with prices. If prices are low the large apples are in greater demand, while, if prices are high, small apples are taken more readily.

*Grade Preferences.*—As a whole, northern California markets required better grades of apples than southern California markets. The New York market expressed decided preference for fruit of high grade from the Pacific coast. Northwest 'Extra Fancy,' California

'Fancy,' and 'U. S. No. 1' were most popular at price differentials prevailing in 1929.

*Pack and Container Preferences.*—In general, northern California markets prefer all apples packed and wrapped in standard apple boxes. Brokers, who do little business in early cooking apples, stated this to be the case for all varieties of apples, whereas wholesalers and jobbers stated that early cooking apples were preferred unwrapped in lugs. Southern California markets lean heavily toward California apples unwrapped and loose in unlidded boxes. On the other hand, these markets expressed a preference for wrapped and packed apples in standard apple boxes from the Northwest. In Eastern markets the box is the universally accepted container for western apples, including California Gravensteins and Northwest varieties.

*Color Preferences.*—Red apples are in general favor among consumers, although approximately 50 per cent of those interviewed reported no color preference. Green rather than yellow colored Newtowns are preferred in California markets.

*The Effect of the Sale of Immature Apples.*—Less than 40 per cent of all the consumers interviewed reported purchasing early immature apples. Consumers who reported purchasing such apples for specific purposes, for sauce and pies, for example, indicated that in general the immaturity did not prejudice them against the purchase of the same variety later in the season when it was mature. Retailers, however, were of the opinion that, on the whole, the sale of immature apples was injurious and that it affected later sales. At the same time, they felt that there is a specific demand for early immature apples.

Consumers in northern California markets purchase immature apples to a greater extent than do those in southern California markets. Consequently there were a larger number of wholesalers and jobbers in northern California markets than in those of southern California who were of the opinion that the sale of immature apples did not hurt later sales. It was the opinion of the wholesale trade that immaturity was more objectionable in the Gravenstein than in the Bellflower or Newtown.

*Possible Premiums for Well-Striped Gravensteins Packed Separately.*—Approximately half of the California retailers interviewed reported they could pay a premium of from 25 cents to a dollar a box for well-striped Gravensteins, the majority reporting approximately 50 cents a box. Likewise, nearly 50 per cent of the wholesalers and jobbers in California markets stated that they could pay such a

premium but the majority felt that 25 cents a box was the extent of the premium. Brokers were more generally of the opinion that a premium could be obtained. On the eastern markets wholesalers, jobbers, and brokers were almost unanimous in stating that a premium of from 25 cents to 50 cents a box could be obtained.

Nevertheless, it was the general opinion of all factors, including shippers, that it would not be a profitable practice under present conditions of production in the Gravenstein area to attempt to pack well-striped Gravensteins separately. Only a small proportion of the apples produced are highly colored and it was felt that packing the well-striped apples separately would lower the price for the general run of the pack to such an extent that the premium obtained for the highly colored apples would not offset the loss from lower prices that would be received for the bulk of the pack.

*Storage Operations and Problems.*—Storage of Gravensteins is seldom practiced in California markets. Those who had stored them held them for short periods, usually not longer than three to four weeks. Bitter-pit was reported to be the principal problem encountered in the storage of this variety.

It was the concensus of opinion from retailer to shipper that it is inadvisable to store Gravensteins in order to extend their marketing season because Jonathans are preferred in most markets and as soon as available tend to displace Gravensteins. The only conditions that would make the storage of Gravensteins advisable would be an overloaded market during mid-season in heavy crop years or a late Jonathan crop in the Northwest.

Bellflowers are stored by the majority of wholesalers in southern California markets and by most of the shippers in the Watsonville district. However, only half of the dealers in northern California markets stored them, and the quantity stored by these dealers was considerably less than that stored by those in southern California. The length of the storage period varied from three to six months with a marked tendency on the part of southern California wholesalers to store longer than those in northern California. The development of bitter-pit and a tendency to ripen too rapidly were the chief difficulties encountered in the storage of Bellflowers. Most dealers reported the storage of this variety as profitable.

Most of those who handled Newtowns made a practice of storing. The length of the storage period was considerably longer than for Bellflowers. It is a common practice to hold some Newtowns until July 1. Internal browning was reported to be the chief difficulty in

storage. Scald was stated to add to storage difficulties, but was not reported troublesome except where difficulties were experienced with ventilation, high temperatures, or some unusual delay in placing the fruit in storage. The majority reported the storage of this variety as profitable.

*Market Structure.*—Apples, like other fruits and vegetables, take a variety of routes as they move from producer to consumer. On the whole the most typical route followed by California apples is as follows: Producer—country packer—distributor—broker—jobber—retailer—consumer. In eastern markets an auction, and at times also a wholesaler, is found between broker and jobber. In Los Angeles a wholesaler is often found at that stage. (See chart on cover page.)

There was no evidence of purposeful extra handling. When one jobber, for example, bought of another, it was because he needed immediately a small quantity of apples of a particular size, quality, or variety to meet the needs of his trade. When jobbers bought of wholesalers they did so because they could not use the full car lots offered by brokers for country shippers. All dealers were found to take short-cuts in these trade channels when they found it profitable, even to the extent in some cases of going directly to the producer.

*Quantity Per Sale.*—The country packer, the distributor, and the broker usually ship and sell car lots; the wholesaler commonly sells 25 to 100 boxes, the jobber 5 to 10 boxes, and the retailer from 3 to 5 pounds.

*Credit Relations.*—It was found that retailers received credit from wholesalers, while jobbers reported purchasing principally on a cash basis, although some purchases were made on a credit basis. Wholesalers often engaged in two-way financing. That is, they made cash advances to country packers as well as extending credit to retailers and jobbers. Brokers and distributors also extended credit in both directions. Shippers financed growers to some extent by making cash advances on delivery of the product but financed production operations directly only in a limited way.

In the Sebastopol area growers are usually free to choose the type of marketing agency they favor because they do not obtain credit from shippers. In that area credit service from local banks was reported to be generally satisfactory. The rates of interest paid by growers compare favorably with those in other agricultural sections. There is no apparent credit shortage in the district.

*Charges and Margins.*—Between 20 and 35 per cent is the gross margin considered necessary by most retailers for handling apples.

Wholesalers and jobbers attempt to obtain a margin of 15 per cent or approximately 25 cents a box. If they sell on a commission basis the charge for this service is usually 15 per cent. Five cents a box and 25 dollars a carload are the most usual selling charges of brokers while distributors generally charge 7 per cent on delivered or auction sales and 10 per cent on f.o.b. sales. Cooperative shippers handle apples for growers' account at actual cost.

Packing charges range from 45 to 60 cents a box. The most usual charge is 55 cents a box. Total charges made by the shipper for packing and selling range from 55½ to 67½ cents a box.

In eastern cities storage charges for carload lots vary from 8 to 10 cents a box for the first month in storage and from 5 to 6 cents a box for each succeeding month. In California the rates are fixed by the Railroad Commission. The rate is 9 cents a box for the first month and 5 cents a box for each succeeding month, with a maximum rate of 25 cents a box for the season. Cooperative storage houses operate at cost.

*Competition Between Fruits, and Possibilities and Suggestions for Increasing the Demand for Apples.*—During the Gravenstein marketing season, many species of soft fruits are available and offer severe competition. For the entire apple season oranges and bananas are considered the chief competitors of the apple.

There was considerable diversity of opinion as to the possibilities of increasing the demand for apples. Those who felt the demand could be increased thought that advertising, better packing, better sizing, better grading, the use of new boxes, and the proper timing of the sale of varieties would be of value. Advertising was mentioned most frequently. It was apparent from the consumer and retailer surveys that the retailer occupies an advantageous position to influence consumer's purchases. More than 70 per cent of all consumers go in person to the retail store and nearly 80 per cent of all consumers merely ask for "apples" rather than for a given variety. Hence an advertising campaign to be most effective should first be directed at the retailer.

As a cheap form of effective advertising, shippers might place in each box an attractive card suitable for display by the retailer. This should feature such points as the name of the variety, its point of production, its best uses, and the time of year when it is at its best.

Opinion was divided as to whether a fancy package was a selling aid. There was also a diversity of opinion as to whether price control at shipping point would improve apple marketing.

*Growers' Attitude Toward Marketing Agencies.*—The majority of Sebastopol apple growers favored a cooperative marketing agency of the centralized type with a federated type as second choice. Approximately 65 per cent of those dealing with cooperative agencies were satisfied with the service rendered, while 53 per cent of those who dealt with independent agencies were satisfied. Nearly half of the growers had used more than one marketing agency during the past five years.

*Apple Production and Wholesale Prices.*—Wholesale prices of California apples are closely related to the general level of apple prices throughout the country. Los Angeles wholesale prices are influenced to a considerable extent by supplies on that market. New York auction prices for Gravensteins are influenced by several other factors which outweigh in importance the quantity of Gravensteins sold at auction.

*Retail Prices.*—The most striking characteristic of retail prices of apples is their wide variation. Quality and variety and the type of store in which the apples are sold all influence retail prices. Premiums for high quality are greatest when the supply of high-quality apples is limited. Fruit stores commonly offer high-quality apples at lower prices than do independent or chain-store retailers.

## TRADE CHANNELS FOLLOWED BY CALIFORNIA APPLES

The chart on the cover page pictures diagrammatically the various trade channels that were found to exist in the marketing of California apples. A number of agencies are engaged in performing the various marketing services.[6] At the same time, all of the agencies may or may not be utilized in bringing the product from a given producer to a given consumer. Likewise, some of the agencies are performing somewhat similar services. Furthermore, short cuts are sometimes made in the marketing process which eliminate one or more agencies. For instance, a shipper may sell all or a portion of his output directly to a wholesaler instead of selling through a broker or through a distributor and a broker. However, it was found that the principal trade channels followed in the marketing of California apples were those represented in the chart. That is, the shipper assembled, graded, and packed the apples delivered by the producer; a broker acting for a distributor, or a broker acting for the shipper, sold to wholesalers in carlots; the wholesalers sold less than carlots to jobbers or retailers or to both; jobbers sold small lots of packages to retailers, and the retailer sold to the consumer in lots of a few pounds.[7] In eastern markets, similar trade channels are used except that California apples are sold almost exclusively on the auction to wholesalers and jobbers.

The complicated market structure pictured on the cover chart has arisen out of attempts on the part of certain dealers to offer more and better marketing services and on the part of others to find short cuts, all, of course, with an eye to greater profits. Thus any given shipper may make connections with wholesalers in a number of cities and either consign to them or exchange telegrams in order to make sales. He may, however, find it more satisfactory in cost and service to make connections with brokers in those cities and thus reach all available carlot buyers in a given market through one broker, and at a minimum of expense for telegrams.

Again, a shipper may find that it takes a long time and is expensive to build up satisfactory brokerage connections in many markets. He may, therefore, find that his net profits are actually increased by

[6] For a discussion of marketing services see: Macklin, Theodore. Efficient marketing for agriculture. Chap. III to XI. Macmillan Co., New York. 1921.

[7] For a detailed discussion of trade channels see: Erdman, H. E. American produce markets. Chap. VI, p. 94–113. D. C. Heath & Co., Boston. 1928.

paying a somewhat higher charge to some distributor who maintains an elaborate set of brokerage connections reaching all of the large markets of the country. There are a number of such distributors, both private and cooperative.

Any given shipper will thus balance the advantages and disadvantages of different trade channels against his own needs and ability. Likewise, various plans may be followed by other dealers. A jobber in an eastern market may, for example, buy apples at auction in lots of 20 boxes or more, or he may buy of a carlot receiver (pictured in the chart as a wholesaler), or he may buy a carlot outright through a broker. He will do the latter only if he has a large business in apples or if he has the necessary storage facilities and is adequately financed.

## TRADE OPINION ON MARKET PREFERENCES

Trade opinions on market preferences were obtained by personal interview from 104 retailers in California cities, 116 wholesalers and jobbers in California and eastern cities, 34 brokers and distributors in California and eastern cities, and 37 shippers in California. Specific questions were asked of each person interviewed and the replies were summarized as shown in tables which follow. In many cases the questions were not answered or the replies were vague. Consequently, only those replies were tabulated which were direct and to the point.

The tables present the opinions of the various factors in the trade with reference to market preferences. In general the various factors were in accord concerning the demands of their markets, but in some instances there was a conflict of opinion. Where such conflict is evident, attention will be called to the fact in the discussion which follows. However, since some readers will be interested in comparing and contrasting the opinions of the various classes of dealers, the data obtained are presented in tables which separate the opinions of each type of dealer.

### VARIETY PREFERENCES*

When stating variety preferences, dealers were asked to classify apples as early eating, early cooking, late eating, and late cooking, but it was difficult for most of them to do so. (See tables 4 to 7.) In both northern and southern California markets, the Bellflower was called an early eating apple by many and a late cooking apple by

* See footnote, page 3.

others. In southern California, in fact, the Bellflower was classed as an early eating, early cooking, and late cooking apple. Likewise, the Jonathan was given fourth choice as an early eating apple by the northern California trade and first choice as a late eating apple by the southern California trade.

It was also difficult for the trade to name varieties in order of their preference. They invariably tended to name the varieties in order of their seasonal appearance on the market. Hence it is felt that the answers are somewhat biased by this factor, although the interviewer tried to keep the correct question before them.

In California markets most dealers named the Gravenstein as first choice as an early eating apple. It was considered superior to such varieties as Astrachan and Skinner's Seedling. In the New York market, the Gravenstein was regarded as being the only variety in its season used strictly for eating out of hand. Duchess and Wealthy, particularly the early Wealthy from New Jersey, Maryland and Delaware, were considered of little value for eating. Both of these varieties, however, as well as the Yellow Transparent and Williams Red, were frequently mentioned as eating apples. McIntosh and Jonathan were considered very popular varieties for eating but these were most often classed as late varieties. It was particularly difficult to make a satisfactory distinction between early and late varieties in the East because New York and other eastern markets receive the same varieties from numerous sources, each section having different shipping dates.

In Chicago, Cleveland, Philadelphia, and Boston markets, the Gravenstein was again looked upon as the outstanding and in reality the only early eating apple. Perhaps Chicago used more Duchess, Wealthy, and Transparent than the other markets. Philadelphia was not an important market for Gravensteins, but dealers recognized their value. Because there are many local varieties, some classed fall Jonathans as the first eating sort. Boston gave Gravenstein first place, followed by McIntosh. Later Gravensteins from New Hampshire, Massachusetts, and Vermont compete to some extent with the last of the California crop. The eastern Gravenstein possesses more color than the California Gravenstein. (See table 4 for summary of market preferences for early eating varieties.)

The Gravenstein was named as a cooking apple as well as an eating apple in California markets. A total of eleven varieties were named as early cooking apples, but Astrachans (both red and white), Gravensteins, Bellflowers, and Alexanders were named most frequently.

The dealers on eastern markets named fifteen to twenty varieties of early apples used for cooking purposes. Of these, Wealthy, Codlin, Twenty Ounce, and Duchess were most important in New York, while Wealthy, Duchess, and Transparent, were prominent in other eastern markets (table 5). Red Astrachan, Gravenstein, and Northwestern Greening were used to a limited extent in New York.

In California, the varieties preferred as late eating apples were Jonathan, Winesap, Newtown, Spitzenburg and Delicious. Rome Beauty and Bellflower were also mentioned several times. (See table 6.)

Of the varieties of late eating apples, Winesap was generally preferred in the East. Jonathan, Delicious, and Spitzenburg are next in importance. McIntosh, a fall and early winter variety was in special demand on the New York market, while Philadelphia and Boston showed a decided partiality for the Stayman Winesap. Cleveland and Chicago gave the Jonathan first place. E. F. Dummeier[8] in a study of the Chicago market reported: "The four varieties of far western apples which stand out on the Chicago market are Delicious, Jonathan, Winesap, and Rome Beauty. The Stayman Winesap is more popular in Philadelphia, Baltimore, and Washington, than it is in Chicago. The Spitzenburg sells better in comparison with other varieties in several eastern cities than it does in Chicago."

California markets preferred the Newtown, Bellflower, and Rome Beauty varieties as late cooking apples. The Rome Beauty was particularly in demand as a baking apple, although it was used to a considerable extent as a late eating apple. It is worthy of note that the varieties named as cooking apples are not red apples. Other varieties named as late cooking apples were Winesap, Tompkins King, Fall Pippin, Twenty Ounce and Rhode Island Greening. (See table 7.)

For fall and winter cooking apples, New York preferred Rhode Island Greening, Baldwin, and Rome Beauty. The trade appeared to have no special preference among the three varieties. Other varieties of much less importance are Newtown, Twenty Ounce, York, Imperial, and Stayman Winesap. The three most popular varieties listed for New York were also the general favorites throughout the East. Individual markets, however, showed a slight preference for each variety. Boston favored Baldwin; Cleveland, Rome Beauty; and Philadelphia Rome Beauty and Stayman Winesap.

---

[8] Dummeier, E. F. Marketing of Pacific Coast fruits in Chicago. p. 232. Unpublished thesis, University of Chicago. 1926.

## TABLE 1

SIZES OF APPLES HANDLED BY RETAILERS IN CALIFORNIA

| Area | Sizes, in count per standard apple box | | | | | | | | | | | | | | | | | | | | | | | | Total replies |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 72 | | 80 | | 88 | | 96 | | 100 | | 104 | | 113 | | 125 | | 138 | | 150 | | 163 | | 175 | | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | |
| | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* | *9* | *10* | *11* | *12* | *13* | *14* | *15* | *16* | *17* | *18* | *19* | *20* | *21* | *22* | *23* | *24* | *25* |
| All California | 2 | 2 | 2 | 2 | 8 | 8 | 8 | 8 | 49 | 51 | 49 | 51 | 62 | 65 | 81 | 84 | 79 | 82 | 74 | 77 | 33 | 34 | 6 | 6 | 96 |
| San Francisco | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 45 | 9 | 45 | 12 | 60 | 19 | 95 | 17 | 85 | 12 | 60 | 1 | 5 | 0 | 0 | 20 |
| Los Angeles | 0 | 0 | 0 | 0 | 2 | 4 | 2 | 4 | 23 | 50 | 23 | 50 | 33 | 72 | 45 | 98 | 45 | 98 | 45 | 98 | 26 | 57 | 0 | 0 | 46 |
| Alameda, Berkeley, and Oakland | 0 | 0 | 0 | 0 | 4 | 18 | 4 | 18 | 13 | 59 | 13 | 59 | 13 | 59 | 11 | 50 | 11 | 50 | 11 | 50 | 6 | 27 | 6 | 27 | 22 |
| Stockton and Sacramento | 2 | 20 | 2 | 20 | 2 | 20 | 2 | 20 | 4 | 40 | 4 | 40 | 4 | 40 | 6 | 60 | 6 | 60 | 6 | 60 | 0 | 0 | 0 | 0 | 10 |

Items in columns 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, and 24 will not total 100 because dealers reported buying more than one size.

## SIZE PREFERENCES

In California, the range in preferred sizes for all varieties of apples was from 100's to 150's. However, the size requirements varied somewhat for different varieties. For Jonathan the range was 113's and 150's, Delicious 88's and 125's, Spitzenburg 100's to 125's, Winesap 113's to 150's, Newtown 100's to 150's, and Rome Beauty 72's to 96's. For general culinary uses, sizes 113 to 138 were in greatest demand while for baking 100's and larger sizes were desired. Somewhat larger sizes were preferred in southern California markets than in northern California markets. However, toward the end of the season the preference was for the smaller sizes in the preferred range in southern California. For instance, in the early part of the Jonathan season, the preferred sizes ran from 100's to 138's, while in the latter part of the season 125's to 150's were preferred. Nevertheless, sizes most in demand ranged between 113's and 138's.

Several dealers reported that size requirements varied with the price. If prices were low the larger apples were in greater demand while if prices were high the smaller apples were taken more readily.

New York also showed a preference for the sizes between 100's and 150's for general trade. Other eastern markets preferred the 113's to 138's inclusive, with Chicago using some 150's. The statements of wholesalers, jobbers, brokers, and distributors with reference to size preferences agreed closely with the statements made by retailers as to the size of apples they handled (table 1).

## GRADE PREFERENCES

Grade preferences varied widely among varieties and markets. Price and time of the year were also said to influence grade preferences. For example, when apple prices were low, or late in the season when apples come out of storage, the preference was for 'Extra Fancy,' while with prices high, or early in the season, the preference was for 'Fancy.'

As a whole the northern California markets required a better grade of apple than did those in southern California. This was particularly true of the San Francisco market. The Sacramento and Stockton markets did not, however, require as good a grade as the San Francisco market, these markets reporting that approximately 75 per cent 'C' grade is demanded and 25 per cent 'Fancy.'

The 'Unclassified' grade[9] was acceptable in Los Angeles for early varieties. For early cooking varieties this usually meant orchard run with culls out. In San Francisco, however, the 'Fancy' grade was in greatest demand even for early varieties. Late apples of 'Fancy' and 'Extra Fancy' grades were preferred in most California markets, but Los Angeles accepted large quantities of the 'Combination' grade.

In New York, Northwest 'Extra Fancy,' California 'Fancy,' and 'U. S. No. 1' were most popular.[10] The above grades were also in greatest demand on other eastern markets surveyed with the excep-

TABLE 2

GRADES OF APPLES HANDLED BY RETAILERS IN CALIFORNIA

| Area | Extra fancy | | Fancy | | C grade | | Combination | | Number of dealers reporting |
|---|---|---|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | |
| | *1* | *2** | *3* | *4** | *5* | *6** | *7* | *8** | *9* |
| All California | 32 | 31 | 84 | 82 | 24 | 24 | 11 | 11 | 102 |
| San Francisco | 1 | 5 | 15 | 75 | 5 | 25 | 0 | 0 | 20 |
| Los Angeles | 26 | 57 | 45 | 98 | 9 | 20 | 10 | 22 | 46 |
| Alameda, Berkeley, and Oakland | 3 | 14 | 19 | 86 | 3 | 14 | 1 | 5 | 22 |
| Stockton and Sacramento | 2 | 20 | 5 | 50 | 7 | 70 | 0 | 0 | 10 |

*The items in columns 2, 4, 6, and 8 will not total 100 because several retailers stated they carried more than one grade.

tion of Cleveland. This market recognized high quality but paid little more for it than for a good second grade. Here California 'Fancy' and Northwest 'Fancy' sold well. Eastern varieties of the 'U. S. No. 1' grade were in greatest demand with 'Combination' grade a second choice.

The statements made by the trade concerning grade preferences appear to conflict with the data obtained from retailers on the grades of apples handled by them (table 2). That is, more retailers reported that they handled 'Extra Fancy' than the wholesale trades' statements would indicate. This may be explained by the fact that retailers often handle several grades but the bulk of their business is in one or two grades.

[9] After August 15, 1929, the 'Unclassified' grade was replaced by the 'Combination' grade.

[10] Very little eastern fruit grades 'U. S. Fancy.'

## PACK PREFERENCES

Northern California markets, particularly the San Francisco market, preferred to have apples packed and wrapped, while the Los Angeles market preferred California varieties loose in unlidded boxes and Northwest apples packed and wrapped. Eastern markets demanded packed and wrapped apples from California and the Northwest but accepted local apples loose.

## CONTAINER PREFERENCES

Container preferences varied with markets and variety of apples. Early cooking apples were sold in lugs in San Francisco and unlidded boxes in Los Angeles. The latter market also accepted early eating, late cooking, and late eating apples in these containers. Aside from

TABLE 3

Type of Container Preferred and Opinions Concerning Small Containers as Reported by Retailers in California

| Area | Reporting a preference for | | | | | | | Opinions as to whether apples could be sold advantageously in original containers if packed in smaller packages | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Boxes | | Lugs | | No preference | | Total replies | Could | | Could not | | Total replies |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Number | Per cent | Number | Per cent | Number |
| All California | 81 | 79 | 5 | 5 | 16 | 16 | 102 | 26 | 28 | 68 | 72 | 94 |
| San Francisco | 15 | 83 | 0 | 0 | 3 | 17 | 18 | 7 | 29 | 17 | 71 | 24 |
| Los Angeles | 48 | 98 | 1 | 2 | 0 | 0 | 49 | 7 | 19 | 29 | 81 | 36 |
| Alameda, Berkeley, and Oakland | 8 | 36 | 3 | 14 | 11 | 50 | 22 | 8 | 35 | 15 | 65 | 23 |
| Stockton and Sacramento | 10 | 77 | 1 | 8 | 2 | 15 | 13 | 4 | 36 | 7 | 64 | 11 |

early cooking apples, the San Francisco market demanded that apples be in standard apple boxes. Eastern markets desired that western apples arrive in standard apple boxes, although bushel baskets and barrels were acceptable containers for eastern apples. In Philadelphia and Cleveland 5/8 bushel baskets were becoming popular. Boston received a considerable proportion of its early cooking apples in a local bushel lug box.

As is shown in table 3, the majority of California retailers supported the opinion of the rest of the trade by stating that they preferred to buy apples in boxes, those in Los Angeles indicating a preference for the unlidded box.

TABLE 4

MARKET PREFERENCES FOR EARLY EATING APPLES
(In order named most frequently)

| Item | Markets | | | | |
|---|---|---|---|---|---|
| | All California | Northern California | Southern California | New York | All Eastern |
| | As reported by wholesalers and jobbers | | | | |
| Variety | Gravenstein<br>Jonathan<br>Bellflower | Gravenstein<br>Jonathan<br>Bellflower | Gravenstein<br>Skinner's Seedling | Gravenstein<br>Wealthy<br>Duchess | Gravenstein |
| Size | 100–150<br>88–125<br>113–150 | 100–150<br>113–150<br>100–138 | 100–150<br>88–125 | 100–150<br>80– 96 | 113–150 |
| Grade | Fancy<br>Unclassified<br>C grade | Fancy<br>C grade<br>Extra Fancy | Unclassified<br>Fancy<br>C grade | N.W.ExtraFancy<br>Calif. Fancy<br>U. S. No. 1 | Calif. Fancy<br>N. W. Fancy<br>U. S. No. 1 |
| Pack | Unwrapped<br>Wrapped<br>Both | Unwrapped<br>Wrapped<br>Both | Unwrapped | Wrapped | Wrapped |
| Container | Boxes<br>Lugs<br>Both | Boxes<br>Lugs<br>Both | Boxes<br>Lugs<br>Both | Boxes<br>Bushel basket | Boxes<br>Bushel basket |
| | As reported by brokers and distributors | | | | |
| Variety | Gravenstein<br>Jonathan<br>Skinner's Seedling | Gravenstein<br>Astrachan<br>Jonathan | Gravenstein<br>Skinner's Seedling<br>Jonathan | Gravenstein<br>Wealthy<br>Duchess | Gravenstein<br>Wealthy<br>Duchess |
| Size | 100–150<br>88–125 | 100–150 | 100–150<br>88–125 | 113–150 | 113–138 |
| Grade | Fancy<br>Unclassified<br>C grade | Fancy<br>C grade<br>Extra fancy | Unclassified<br>Fancy | Fancy<br>U. S. No. 1 | Fancy<br>U. S. No. 1 |
| Pack | Unwrapped<br>Wrapped<br>Both | Wrapped<br>Unwrapped<br>Both | Unwrapped | Wrapped | Wrapped |
| Container | Boxes<br>Lugs<br>Baskets | Boxes<br>Lugs | Boxes<br>Baskets | Boxes | Boxes |

Seventy-two per cent of the retailers were of the opinion that apples could not be sold advantageously in original packages even if they were packed in small containers (table 3). In the poorer districts retailers were emphatic in their statements that they could not sell

TABLE 5

Market Preferences for Early Cooking Apples
(In order named most frequently)

| Item | Markets | | | | |
|---|---|---|---|---|---|
| | All California | Northern California | Southern California | New York | All Eastern |
| | As reported by wholesalers and jobbers | | | | |
| Variety | Astrachan<br>Gravenstein<br>Alexander | Astrachan<br>Alexander<br>Gravenstein | Astrachan<br>Bellflower<br>Gravenstein | Wealthy<br>Codlin<br>Twenty Ounce<br>Duchess | Wealthy<br>Duchess<br>Transparent |
| Size | 100–150<br>88–125<br>113–125 | 100–150<br>113–125<br>80–113 | 100–150<br>88–125 | 113–138<br>88–104<br>150 | 113–138<br>88–100 |
| Grade | Fancy<br>Unclassified<br>C grade | Fancy<br>C grade | Unclassified<br>Fancy<br>C grade | U. S. No. 1<br>Commercial | U. S. No. 1<br>Commercial |
| Pack | Unwrapped | Unwrapped<br>Wrapped<br>Both | Unwrapped | Unwrapped | Unwrapped |
| Container | Boxes<br>Lugs<br>Both | Lugs<br>Boxes<br>Both | Boxes<br>Lugs<br>Both | Bushel baskets | Bushel baskets<br>⅝ bushel baskets<br>Lugs |
| | As reported by brokers and distributors | | | | |
| Variety | Bellflower<br>Gravenstein<br>Astrachan | Gravenstein<br>Astrachan<br>Alexander | Bellflower<br>Astrachan<br>Gravenstein | Wealthy<br>Duchess<br>Williams Red | Wealthy<br>Duchess<br>Transparent |
| Size | 100–150<br>88–125 | 100–150 | 100–150<br>88–125 | 100–125<br>80–100 | 100–125<br>80–100 |
| Grade | Fancy<br>Unclassified<br>C grade | Fancy<br>C grade | Unclassified<br>Fancy | U. S. No. 1<br>Commercial | U. S. No. 1<br>Commercial |
| Pack | Unwrapped<br>Wrapped<br>Both | Wrapped<br>Unwrapped<br>Both | Unwrapped | Unwrapped | Unwrapped |
| Container | Boxes<br>Lugs<br>Both | Boxes<br>Lugs<br>Both | Boxes | Bushel baskets | Bushel baskets<br>Bushel lugs |

in original packages, while in the higher income districts a larger number reported that they could sell to advantage in small packages. Some said that the holiday trade would be more likely to accept original packages.

TABLE 6

MARKET PREFERENCES FOR LATE EATING APPLES
(In order named most frequently)

| Item | Markets | | | | |
|---|---|---|---|---|---|
| | All California | Northern California | Southern California | New York | All Eastern |
| **As reported by wholesalers and jobbers** | | | | | |
| Variety | Jonathan<br>Winesap<br>Newtown | Spitzenburg<br>Newtown<br>Winesap | Jonathan<br>Delicious<br>Winesap | Winesap<br>Delicious and Jonathan<br>Spitzenburg<br>McIntosh | Winesap<br>Jonathan<br>Delicious |
| Size | 100–150<br>113–150<br>88–125 | 100–150<br>113–150<br>125–150 | 100–150<br>113–150<br>88–125 | 100–138<br>88– 96<br>150 | 113–138<br>138–150 |
| Grade | Fancy<br>Extra fancy<br>C grade | Fancy<br>Extra fancy<br>C grade | Extra fancy<br>Fancy<br>Combination | Extra fancy<br>Fancy | Extra fancy<br>Fancy |
| Pack | Wrapped<br>Both<br>Unwrapped | Wrapped<br>Unwrapped<br>Both | Both<br>Wrapped<br>Unwrapped | Wrapped<br>Unwrapped | Wrapped<br>Unwrapped |
| Container | Boxes<br>Lugs<br>Baskets | Boxes<br>Both<br>Lugs | Boxes<br>Baskets | Boxes<br>Baskets<br>Barrels | Boxes<br>Baskets<br>Barrels |
| **As reported by brokers and distributors** | | | | | |
| Variety | Spitzenburg<br>Winesap<br>Jonathan | Spitzenburg<br>Winesap<br>Newtown | Jonathan<br>Delicious<br>Winesap | Winesap and Delicious<br>Jonathan<br>McIntosh | Winesap<br>Jonathan<br>Delicious |
| Size | 100–150<br>113–150<br>100–113 | 100–150 | 113–150<br>100–113<br>80–125 | 113–150<br>80–100 | 113–150<br>80–100 |
| Grade | Fancy<br>Extra fancy<br>Combination | Fancy<br>Extra fancy<br>C grade | Extra fancy<br>Fancy<br>Combination | Extra fancy<br>Fancy<br>U. S. Fancy and U. S. No. 1 | Extra fancy<br>Fancy<br>U. S. Fancy and U. S. No. 1 |
| Pack | Both<br>Wrapped<br>Unwrapped | Both<br>Wrapped<br>Unwrapped | Both<br>Wrapped<br>Unwrapped | Wrapped<br>Unwrapped | Wrapped<br>Unwrapped |
| Container | Boxes<br>Baskets | Boxes | Boxes<br>Baskets | Boxes<br>Baskets<br>Barrels | Boxes<br>Baskets<br>Barrels |

## TABLE 7

### Market Preferences for Late Cooking Apples
(In order named most frequently)

| Item | Markets | | | | |
|---|---|---|---|---|---|
| | All California | Northern California | Southern California | New York | All Eastern |
| **As reported by wholesalers and jobbers** | | | | | |
| Variety | Newtown<br>Bellflower<br>Rome Beauty | Newtown<br>Rome Beauty<br>Bellflower | Bellflower<br>Newtown<br>Rome Beauty | R. I. Greening<br>Baldwin<br>Rome Beauty | R. I. Greening<br>Baldwin<br>Rome Beauty |
| Size | 100-150<br>72-100<br>64- 80 | 100-150<br>64-80<br>113-150 | 100-150<br>72-100 | 88-138<br>72-88<br>150 | 88-138 |
| Grade | Fancy<br>Extra fancy<br>C grade | Fancy<br>C grade<br>Extra fancy | Combination<br>Fancy<br>Extra fancy | Extra fancy (W)*<br>U. S. No. 1 (E)†<br>Fancy (W)<br>U. S. Combination (E) | Extra fancy (W)<br>U. S. No. 1 (E)<br>Fancy (W) |
| Pack | Wrapped<br>Both<br>Unwrapped | Wrapped<br>Both<br>Unwrapped | Unwrapped<br>Both<br>Wrapped | Both | Both |
| Container | Boxes<br>Both<br>Lugs | Boxes<br>Both<br>Lugs | Boxes | Boxes (W)<br>Baskets (E) | Boxes (W)<br>Baskets (E) |
| **As reported by brokers and distributors** | | | | | |
| Variety | Newtown<br>Bellflower<br>Rome Beauty | Rome Beauty<br>Newtown<br>Bellflower | Bellflower<br>Newtown<br>Rome Beauty | R. I. Greening<br>Baldwin<br>Rome Beauty | Rome Beauty<br>Baldwin<br>Winesap |
| Size | 100-150<br>72-100<br>72- 88 | 72- 88<br>100-150 | 100-150<br>72-100 | 100-125<br>72-100 | 100-125<br>72-100 |
| Grade | Fancy<br>Combination<br>Extra fancy | Fancy<br>Extra fancy<br>Combination | Combination<br>Fancy<br>Extra fancy | Extra fancy<br>U. S. No. 1<br>Fancy | Extra fancy<br>U. S. No. 1<br>Fancy |
| Pack | Wrapped<br>Both<br>Unwrapped | Wrapped | Unwrapped<br>Both<br>Wrapped | Wrapped (W)<br>Unwrapped (E) | Wrapped (W)<br>Unwrapped (E) |
| Container | Boxes | Boxes | Boxes | Boxes<br>Baskets<br>Barrels | Boxes<br>Baskets<br>Barrels |

*(W) Western apples.
†(E) Eastern apples.

A retail survey in Pennsylvania[11] brought out the fact that some retailers had repacked apples and sold them in peck packages. Their margin of profit was low but the volume sold made this practice profitable.

TABLE 8

COLOR PREFERENCE FOR NEWTOWNS IN CALIFORNIA MARKETS AS REPORTED BY WHOLESALERS AND JOBBERS

| Markets | Reporting preference for green color | | Reporting preference for yellow color | | Reporting a demand for both yellow and green | | Total replies | |
|---|---|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 32 | 77 | 3 | 7 | 7 | 16 | 42 | 100 |
| Northern California | 15 | 68 | 2 | 9 | 5 | 23 | 22 | 100 |
| Southern California | 17 | 85 | 1 | 5 | 2 | 10 | 20 | 100 |

COLOR PREFERENCE FOR NEWTOWNS IN CALIFORNIA MARKETS

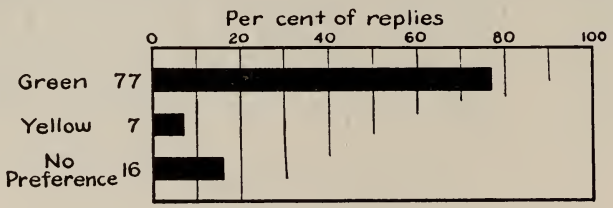



Fig. 1.—In California markets the preference is usually for green colored Newtowns and this is especially the case in southern California. (Data from table 8.)

COLOR PREFERENCE FOR NEWTOWNS

Watsonville growers and shippers are particularly interested in trade preferences for color of the Newtown variety. In reply to a question with reference to color, California wholesalers and jobbers reported a decided preference for a green Newtown (table 8 and fig. 1). Some dealers stated that the trade wanted a yellow-colored Newtown late in the season, but all dealers reported a preference for a green Newtown for storage.

[11] Hanemann, H. A. Merchandizing apples in Pennsylvania cities. (Mimeo.) p. 6. Pennsylvania Bur. Markets. March, 1927.

Brokers were in general agreement with wholesalers and jobbers as to color preference. Compare tables 8 and 9. For export, however, California brokers stated that the Hamburg market prefers a yellow Newtown while other markets want a green Newtown.

TABLE 9

Color Preference for Newtowns in California Markets as Reported by Brokers and Distributors

| Markets | Reporting preference for green color | | Reporting preference for yellow color | | Reporting a demand for both yellow and green | | Total replies | |
|---|---|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 13 | 86 | 1 | 7 | 1 | 7 | 15 | 100 |
| Northern California | 5 | 83 | 0 | 0 | 1 | 17 | 6 | 100 |
| Southern California | 8 | 89 | 1 | 11 | 0 | 0 | 9 | 100 |

## OPINIONS ON PACKING WELL-STRIPED GRAVENSTEINS SEPARATELY

California markets differed in their answers to the question of whether or not the trade would pay more for well-striped Gravensteins packed separately. Northern California wholesalers stated more frequently that they would pay more. Likewise, brokers were more generally of the opinion that a higher price could be obtained than were wholesalers and retailers. (See tables 11 and 12.) The premium they could pay ranged from 15 cents to a dollar a box. Southern California dealers, as is evident from tables 10, 11, and 12, were generally of the opinion that they could not pay more for separate packing of the well-striped Gravensteins, and those who did, indicated that they could pay a smaller premium than the northern California dealers reported. However, most dealers expressed doubt as to whether this would be profitable from the standpoint of the shipper. They felt that packing the fancy well-striped apples separately would rob the other grades to such an extent that they would sell for less, resulting in a total smaller return to the grower. Shippers concurred in this opinion.

It was the general opinion of the trade on all of the eastern markets that well-striped Gravensteins would bring a premium of from 25 to 50 cents a box more than those without stripe. Only 10 per cent of those interviewed stated they would not pay at least 15

TABLE 10

RETAILERS' OPINIONS CONCERNING PREMIUMS FOR WELL-STRIPED GRAVENSTEINS

| Market area | Retailers reporting | | | | | | Extent of premium per box | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Could pay premium | | Could not pay premium | | Total replies | | 25 cents | | 26 to 50 cents | | 51 to 75 cents | | 76 cents or more | | 15 to 50 per cent | | Total replies | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 53 | 51 | 50 | 49 | 103 | 100 | 3 | 7 | 10 | 26 | 8 | 21 | 9 | 23 | 9 | 23 | 39 | 100 |
| San Francisco | 15 | 60 | 10 | 40 | 25 | 100 | 1 | 11 | 4 | 44 | 1 | 11 | 2 | 22 | 1 | 11 | 9 | 100 |
| Los Angeles | 16 | 35 | 30 | 65 | 46 | 100 | 0 | 0 | 5 | 26 | 7 | 37 | 7 | 37 | 0 | 0 | 19 | 100 |
| Alameda, Berkeley, and Oakland | 15 | 68 | 7 | 32 | 22 | 100 | 1 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 89 | 9 | 100 |
| Stockton and Sacramento | 7 | 70 | 3 | 30 | 10 | 100 | 1 | 50 | 1 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 100 |

## TABLE 11

Wholesalers' and Jobbers' Opinions as to Premiums for Well-striped Gravensteins

| Markets | Would your trade pay more for well striped Gravensteins packed separately? | | | | | | How much more? |
|---|---|---|---|---|---|---|---|
| | Yes | | No | | Total replies | | |
| | Number | Per cent | Number | Per cent | Number | Per cent | |
| All California | 21 | 53 | 19 | 47 | 40 | 100 | 10 cents to $1.00 a box, mostly 25 cents. |
| Northern California | 14 | 64 | 8 | 36 | 22 | 100 | 15 cents to $1.00 a box, mostly 25 cents. |
| Southern California | 7 | 39 | 11 | 61 | 18 | 100 | 10 cents to 35 cents a box, mostly 25 cents. |
| New York | 26 | 81 | 6 | 19 | 32 | 100 | 15 cents to $1.00 a box, mostly 25 to 50 cents. |
| All eastern | 55 | 90 | 6 | 10 | 61 | 100 | 15 cents to $1.00 a box, generally 25 to 50 cents, mostly 25 cents. |

## TABLE 12

Brokers' and Distributors' Opinions as to Premiums for Well-striped Gravensteins

| Markets | Would your trade pay more for fancy well striped Gravenstein's packed separately? | | | | | | How much more? |
|---|---|---|---|---|---|---|---|
| | Yes | | No | | Total replies | | |
| | Number | Per cent | Number | Per cent | Number | Per cent | |
| All California | 13 | 77 | 4 | 23 | 17 | 100 | 10 to 50 cents per box, mostly 25 cents. |
| Northern California | 7 | 78 | 2 | 22 | 9 | 100 | 10 to 50 cents per box, mostly 25 cents. |
| Southern California | 6 | 75 | 2 | 25 | 8 | 100 | 25 to 50 cents per box, mostly 25 cents |
| New York | 6 | 86 | 1 | 14 | 7 | 100 | |
| All eastern | 10 | 91 | 1 | 9 | 11 | 100 | |

TABLE 13

WHOLESALERS' AND JOBBERS' OPINIONS AS TO THE EFFECT OF THE SALE OF IMMATURE FRUIT

| Markets | Gravenstein | | | | | | Newtown | | | | | | Bellflower | | | | | | Other varieties | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bad | | O. K. | | Mixed | | Bad | | O. K. | | Mixed | | Bad | | O. K. | | Mixed | | Bad | | O. K. | | Mixed | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 30 | 73 | 4 | 10 | 7 | 17 | 22 | 61 | 8 | 22 | 6 | 17 | 29 | 76 | 4 | 11 | 5 | 13 | 25 | 78 | 3 | 9 | 4 | 13 |
| Northern California | 16 | 72 | 3 | 14 | 3 | 14 | 12 | 57 | 6 | 29 | 3 | 14 | 16 | 76 | 3 | 14 | 2 | 10 | 15 | 80 | 2 | 10 | 2 | 10 |
| Southern California | 14 | 74 | 1 | 5 | 4 | 21 | 10 | 67 | 2 | 13 | 3 | 20 | 13 | 76 | 1 | 6 | 3 | 18 | 10 | 77 | 1 | 8 | 2 | 15 |
| New York | 17 | 50 | 16 | 47 | 1 | 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 13 | 86 | 1 | 7 | 1 | 7 |
| All eastern | 40 | 63 | 18 | 28 | 6 | 9 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 36 | 80 | 2 | 4 | 7 | 16 |

cents a box more, and several would pay from 75 cents to a dollar more. Some of the better informed eastern dealers felt, however, as did California dealers, that to take the striped apples away from the general run of the pack would be a mistake, because not enough of the fruit would come to this color requirement to offset the lower price which would be paid for the larger proportion of the crop.

## THE EFFECT OF THE SALE OF IMMATURE APPLES

One of the questions concerning which apple growers desired specific information was the effect of the sale of immature apples. As was noted in the consumer survey, information was obtained on this point from them. In interviewing the various factors in the trade, the question of immaturity and its effect on the market was discussed from several angles. First, the general question, "What is your opinion as to the sale of immature Gravensteins, Newtowns, Bellflowers, and other varieties?" was asked. The second question was, "Is there a specific demand for early apples even if they are immature?" The third question was, "Will the sale of immature Gravensteins, Newtowns, Bellflowers, and other varieties hurt later sales?"

The general opinion of the trade in California markets was that it is a bad practice to sell immature apples. Some dealers felt that it was satisfactory under some circumstances, but the majority felt that it was detrimental. By several it was held to be absolutely suicidal for shippers to sell green fruit, yet a few insisted that buyers knew what their trade demanded. Those who gave a qualified opinion expressed the belief that there was a demand for immature apples for cooking, particularly early in the summer when other apples were not on the market. (See tables 13, 14, and 15.) Several brokers who sold apples for export, stated that early in the season there was a demand for green fruit and that it was not injurious to the market to supply this demand.

In reply to the question concerning the effect of the sale of immature Newtowns there was a tendency for the trade to confuse green color with immaturity. This no doubt accounts for the relatively large number who felt that the sale of immature Newtowns was satisfactory.

New York dealers were rather evenly divided in their opinion as to the effect of the sale of immature apples. Jobbers felt that Gravensteins had little competition and that early varieties would sell regardless of quality. A few stated that eating apples should be

mature but that cooking sorts might be immature. Large receivers were practically unanimous in stating that not only immature Gravensteins but that immature fruit of all kinds and varieties should be left at home. Over two-thirds of the dealers interviewed were of this opinion. Some were very emphatic in their replies, a few of which were: "A shame to sell them." "Wrong." "Shouldn't be permitted." "Should be kept at home until fit to ship." "Kills off the consumer." "Should have good color."

As was noted above, some exporters reported that immature apples were satisfactory for export. It is important, however, to keep in

TABLE 14

BROKERS' AND DISTRIBUTORS' OPINIONS AS TO THE EFFECT OF THE SALE OF IMMATURE FRUIT

| Markets | Gravenstein | | | Newtown | | | Bellflower | | | Other varieties | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bad | O. K. | Mixed | Bad | O. K. | Mixed | Bad | O. K. | Mixed | Bad | O. K. | Mixed |
| All California | 13 | 1E* | 3 | 11 | 1 | 2E | 12 | 2E | 2 | 11 | 2E | 2 |
| Northern California | 6 | 1E | 1 | 5 | 0 | 2E | 5 | 2E | 0 | 5 | 2E | 0 |
| Southern California | 7 | 0 | 2 | 6 | 1 | 0 | 7 | 0 | 2 | 6 | 0 | 2 |
| New York | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 2 |
| All eastern | 9 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 2 |

*E indicates sale of immature fruit satisfactory for export.

mind the country in which the apples are sold. The report of the Fruit Trades' Federations[12] of Great Britain on National Advertising and Trade Propaganda contains the following statement with reference to immaturity: "Apple advertising during the past two years has been our most difficult problem. No effort has been spared to offset and overcome the unfortunate and damaging prejudice that was created in 1926. [Referring to the spray residue publicity.] Furthermore, the difficulties have been enhanced by the fact that large quantities of immature and unattractive apples have been thrown on the market causing further unpopularity to this fruit."

The factor of immaturity on English markets was also reported by Edwin Smith[13] in a summary of the apple export situation for 1928–1929: "The Newtown did not have a satisfactory year in any of the European markets. Beginning with the California Newtown which arrived in September (in an entirely immature state) prices were sat-

[12] The Fruit Trades' Federations. A report on national advertising and trade propaganda. New Bridge Street London, E. C. 4. p. 23. Undated.

[13] Smith, Edwin. Foreign news on apples. Bur. Agr. Econ., U. S. Dept. Agr. Mimeo. pp. 3–6. August 2, 1929.

TABLE 15

Sebastopol Shippers' Opinions as to the Effect of the Sale of Immature Gravenstein Apples

| Shipper | Statement regarding sale of immature fruit | Opinion as to whether the sale of immature fruit hurt later sales | Opinion as to whether there was a specific demand for early apples even though immature |
|---|---|---|---|
| 1 | A bad practice to pack and ship. O. K. for Bay cities. | Yes, hurts the name of the Gravenstein. | Yes, locally. O. K. on f. o. b. sales. |
| 2 | Some markets demand green apples, but it hurts later sales. | Yes, would be O. K. if apples were labeled "cooking." | Yes, but should be branded as such. |
| 3 | O. K. if sold "unclassified" as cooking apples and unwrapped. | Yes, green packed apples hurt later sales because an eating apple is expected. | Yes for cooking. |
| 4 | O. K. if loose and unwrapped for cooking. | O. K. for local markets but not for shipment. | Yes |
| 5 | Don't believe in it as a general practice. O. K. for loose apples. | Yes on eastern markets; No on local markets. | Yes, for sauce and pies. |
| 6 | Very detrimental; should not be done even on loose apples. | Yes, exporter says green apples kill the English market. | Very little. Better to leave this demand unsupplied than to ship green. |
| 7 | O. K. Same buyers come back each year. | No. | Yes, Oreint, Hawaii, and Central America want immature apples; can't sell them ripe apples. |
| 8 | O. K. Early sales bring a good price. | Not in a position to state. Feels it is overemphasized. | Yes. |
| 9 | Bad on domestic sales. O. K. to Orient, they want a green apple. | Yes on domestic markets. | Yes, particularly for export. |
| 10 | No statement. | Yes. | Yes, but very small; there is a demand for 20 cars but not 200. |
| 11 | Opposed to it; has not shipped green fruit, and will not. | Yes. | Little, what little demand there is does more harm than good. |
| 12 | O. K. when sold as a cooking apple. | Yes. | Yes. |

isfactory for a few weeks but the eating quality was such as to check consumption to such an extent that very low prices followed during October and November. No doubt these inferior Newtowns injured the consumer demand for all Newtowns."

This same report states further: "A few green apples may be absorbed by the British markets without causing any observable harm to the business. Early in the season small quantities can be used for cooking purposes and may command attractive prices. The exportation of immature apples . . . . . has been greatly overdone, however, and last season offered a striking example of the bad influence which immature apples may have on a market."

Shippers' opinions as to the sale of immature Gravensteins varied widely. (See table 15.) Some were strongly opposed to the practice and stated that they refused to sell immature apples. Others felt that there was a demand for immature fruit and that buyers knew what they were buying. The majority opinion was, however, that the sale of immature fruit was a permissible practice if the apples were not packed and wrapped but were sold loose as cooking apples.

For export shipment there was a distinct difference of opinion. No doubt this is due to the fact that one shipper sells for export to one country and another to another. Shippers who sell for export to the Orient state that the demand is for an immature apple. This statement was substantiated by Professor J. Lossing Buck of the University of Nanking in a conference with one of the authors. "The Chinese," he said, "like crisp fruits. They serve American apples at feasts. These are quartered and served with toothpicks stuck in them." On the other hand, European markets are reported to prefer mature apples and the shipment of immature fruit demoralizes the market.

For domestic shipment to eastern markets most shippers felt that it was a bad practice to wrap and pack immature fruit. The eastern trade, it was asserted, expects an eating apple in a packed box, consequently the shipment of green fruit destroys confidence in the product. The majority favored the sale of immature fruit when packed loose for nearby markets for cooking purposes.

Watsonville shippers were divided in their opinions as to the effect of the sale of immature fruit. (See table 16.) Although the recorded opinions show as much variation as those of Sebastopol shippers the interviews on this subject showed the interest more pronounced in the Sebastopol district.

The majority opinion was that it was a bad practice to sell immature apples on the domestic market, but that it was permissible if the fruit went to export, particularly to the Orient. Most shippers felt that there was a demand for early apples even though they were immature, but the majority reported this demand as limited.

TABLE 16

Watsonville Shippers' Opinions as to the Sale of Immature Fruit

| Shipper | Statement regarding the sale of immature fruit | Opinion as to whether the sale of immature fruit hurts later sales | Opinion as to whether there is a specific demand for early apples even though immature |
|---|---|---|---|
| 1 | Satisfactory for export. | O. K. for export; hurts sales locally. | Yes. |
| 2 | O. K. only for export to China. | Yes. | Yes for some varieties, but demand limited. |
| 3 | Opposed to it. Only O. K. for cooking apples. | Yes. | Yes. |
| 4 | A mistake to sell immature fruit. | Yes. | Yes but limited. |
| 5 | Bad practice. | Yes. | Yes for pies. |
| 6 | O. K. to sell immature. | No. | Yes. |
| 7 | Should not be done except for export. | Yes. | Yes for cooking. |
| 8 | Should not be done. | Yes. | Yes but it is abused. |
| 9 | O. K. | No. | Yes. |
| 10 | A bad practice. | Yes. | Yes but limited. |
| 11 | Opposed to it. | Yes. | Yes. |
| 12 | Should not be done. | Yes. | Yes but won't sell them. |
| 13 | Should not be done. | Yes. | Yes but limited. |
| 14 | | | |
| 15 | Satisfactory for Oriental trade. | Yes on domestic markets. | |
| 16 | Should be fairly mature before sold. | Yes. | |
| 17 | | | |
| 18 | A bad practice. | Yes. | Yes |
| 19 | O. K. for export; some demand domestically. | No on Newtown; yes on Bellflower. | Yes. |
| 20 | O. K. for export; a bad practice on domestic market. | Yes. | Yes |

## SPECIFIC DEMAND FOR EARLY IMMATURE APPLES

In spite of the fact that the majority of the wholesale trade felt that the sale of immature apples was a bad practice, they indicated that there was a specific demand for early apples even though they were immature. (See tables 17 and 18.) Many stated, however, that this demand was limited: "The market will take a few cars and then the demand stops." Again, others reported that the demand for early apples was for cooking apples.

Eastern dealers were practically unanimous in stating that there is a demand for early apples even though they are immature. In most instances, however, the answer of "Yes" was followed by such statements as: "For a limited quantity." "But kills the market—consumers won't buy any more for several weeks." "If a short supply." "If Winesaps are not held over in any quantity." "Can fool

the public but once." "Customers want something new but they are disappointed." "Trade soon lays off." "Probably for cooking." "We have to have some of the first." "But buyers lose money." "People expect them to be sour and of poor quality."

TABLE 17

WHOLESALERS' AND JOBBERS' OPINIONS AS TO THE DEMAND FOR EARLY APPLES EVEN THOUGH IMMATURE

| Markets | Is there a specific demand? | | | |
|---|---|---|---|---|
| | Yes | | No | |
| | Number | Per cent | Number | Per cent |
| All California | 32 | 80 | 8 | 20 |
| Northern California | 18 | 86 | 3 | 14 |
| Southern California | 14 | 74 | 5 | 26 |
| New York | 33 | 97 | 1 | 3 |
| All eastern | 62 | 95 | 3 | 5 |

TABLE 18

BROKERS' AND DISTRIBUTORS' OPINIONS AS TO THE DEMAND FOR EARLY APPLES EVEN THOUGH IMMATURE

| Markets | Is there a specific demand? | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | Qualified | | Total replies | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 10 | 53 | 2 | 10 | 7 | 37 | 19 | 100 |
| Northern California | 3 | 50 | 1 | 17 | 2 | 33 | 6 | 100 |
| Southern California | 7 | 54 | 1 | 8 | 5 | 38 | 13 | 100 |
| New York | 7 | 78 | 1 | 11 | 1 | 11 | 9 | 100 |
| All eastern | 12 | 86 | 1 | 7 | 1 | 7 | 14 | 100 |

Every shipper expressed the opinion that there was some demand for immature apples. The majority opinion was, however, that this demand is decidedly limited and soon oversupplied (table 15). As one shipper expressed it, "There is a demand for 20 cars but not 200." Nevertheless, some felt that the demand was so slight that for the benefit of the later market it would be best to leave this demand go unsupplied.

Mr. H. A. Weinland, Farm Advisor of Sonoma County, felt that if a method could be devised for branding each apple "cooking apple," it would lessen the complaint on the sale of immature fruit.

The majority of the retailers reported that there is a specific demand for early apples even though they are not fully mature. (See table 19.) This demand for early apples was said to be primarily for cooking purposes, consequently, retailers did not believe that the sale of immature apples hurt later sales. Several retailers placed cards with their apple displays calling attention to the fact that the apples were cooking apples. This would seem to be a practice that

TABLE 19

Retailers' Opinions Concerning the Demand for Early Apples

| Question | Yes | | No | | Total replies | |
|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent |
| Is there a specific demand for early immature apples? | 89 | 88 | 12 | 12 | 101 | 100 |
| Does the sale of immature apples hurt later sales? | 16 | 16 | 82 | 84 | 98 | 100 |
| Is there a specific demand for Gravensteins? | 46 | 42 | 63 | 58 | 109 | 100 |

should be encouraged. There was said to be a demand for an early eating apple, but it must be mature.

In reply to the question as to whether there is a specific consumers' demand for Gravenstein apples, approximately half of the retailers reported that there is, although several qualified their statements by pointing out that it is the only eating apple on the market at the time. (See table 19.)

## QUALITIES REPORTED IN OUT-OF-STATE APPLES NOT FOUND IN CALIFORNIA APPLES

Grading, packing, color, and appearance were most frequently mentioned by California wholesalers as being the desirable qualities found in out-of-state apples that were not found in California apples. (See table 20.) Northern California dealers reported that it was a matter of variety as well. The southern California dealers did not analyze this question as the northern dealers did but reported that everything was better. However, when a specific suggestion was made, it was that the grading in the out-of-state apple was better. Some reported that the out-of-state apple must be better graded and packed

## TABLE 20

QUALITIES IN OUT-OF-STATE APPLES NOT FOUND IN CALIFORNIA APPLES AS REPORTED BY WHOLESALERS AND JOBBERS

| Markets | Desirable qualities in out-of-state apples | | | | | | | | | | | | | | | | Total replies |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Grading | | Packing | | Color | | Wrapping | | Uniformity | | Appearance | | Variety | | Flavor | | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number |
| | *1* | *2** | *3* | *4** | *5* | *6** | *7* | *8** | *9* | *10** | *11* | *12** | *13* | *14** | *15* | *16** | *17* |
| Northern California | 13 | 59 | 11 | 50 | 8 | 36 | 2 | 9 | 5 | 23 | 7 | 32 | 8 | 36 | 2 | 9 | 22 |
| Southern California | All stated to be better. | | | | | | | | | | | | | | | | |
| New York | 15 | 54 | 5 | 18 | 23 | 82 | ..... | ..... | 8 | 29 | 6 | 21 | ..... | ..... | 4 | 14 | 28 |
| All eastern | 17 | 44 | 8 | 21 | 34 | 87 | ..... | ..... | 9 | 23 | 9 | 23 | ..... | ..... | 5 | 13 | 39 |

*Figures in columns 2, 4, 6, 8, 10, 12, 14, and 16 will not total 100 owing to the fact that more than one quality was reported as desirable.

to offset the advantage in competition that California apples had in the matter of freight rates.

Perhaps it is inadvisable to compare California Gravensteins with other varieties of packed apples. The Gravenstein, being a yellow and red streaked variety, could not be expected to have the same

TABLE 21

Qualities in Out-of-State Apples Not Found in California Apples as Reported by Brokers

| Markets | Number reporting desirable qualities in out-of-state apples | | | | | | | | Total replies |
|---|---|---|---|---|---|---|---|---|---|
| | Grading | Packing | Color | Wrapping | Uniformity | Appearance | Variety | Flavor | |
| Northern California | 6 | 6 | 4 | 0 | 3 | 2 | 4 | 2 | 6 |
| Southern California | All stated to be better. | | | | | | | | |
| New York | 1 | 0 | 4 | 0 | 0 | 2 | 0 | 0 | 5 |

TABLE 22

Retailers' Attitude Toward Present California Apple Packs

| Area | Reporting | | | | | | Objections to present pack | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Satisfied with present pack | | Not satisfied with present pack | | Total replies | | Packing | Grading | Sizing | Others* | Total replies |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Number | Number | Number | Number |
| All California | 69 | 73 | 25 | 27 | 94 | 100 | 7 | 21 | 5 | 8 | 41 |
| San Francisco | 21 | 95 | 1 | 5 | 22 | 100 | 1 | 1 | 1 | ..... | 3 |
| Los Angeles | 22 | 56 | 17 | 44 | 39 | 100 | 4 | 15 | 4 | 6 | 29 |
| Alameda, Berkeley, and Oakland | 19 | 83 | 4 | 17 | 23 | 100 | 1 | 2 | 0 | 2 | 5 |
| Stockton and Sacramento | 7 | 70 | 3 | 30 | 10 | 100 | 1 | 3 | 0 | 0 | 4 |

*"Other objections" included bruising and internal browning.

degree of color as Northwest Jonathans, Winesaps, etc., and this difference in color stands out as the greatest difference between California apples (as the eastern trade knows them) and those from the Northwest. Other than color, however, it was generally believed that the Northwest practiced better and closer grading (three grades as compared with two from California) and that the fruit was more uniform and of better appearance. In one or two instances the opinion was expressed that California Gravensteins did not always come up to the grade marked on the box.

The majority of retailers stated that they were satisfied with present California apple packs; less than 30 per cent for the state as a whole made complaints (table 22). However, in the Los Angeles market, nearly half of the retailers objected to present packs. Their most frequent complaint was that the apples were not properly graded. In contrast, only 5 per cent of the dealers in the San Francisco market were dissatisfied with the California pack. The reason for the difference between the two markets is, no doubt, that most of the California apples sent to southern California markets were loose in boxes, while those sent to northern California markets were mostly packed and wrapped.

It should be noted, however, that retailers expressed the opinion that California apples were better graded and had a better appearance in 1929 than in previous years.

## OPINIONS AND PRACTICES WITH REFERENCE TO THE POSSIBILITY OF INCREASING THE DEMAND FOR APPLES

Northern California dealers were almost unanimous in their opinion that the demand for apples could be increased, while southern California dealers were about evenly divided in their opinion (table 23). Several opinions as to how the demand could be increased were stated. Advertising and lower prices were given most frequently. A better pack was mentioned by several. (See table 23.)

One suggestion that warrants attention was "the proper timing of the sale of varieties." Although it was given as a means of increasing demand by only one wholesale dealer, it was apparent in interviews with retailers that the proper timing of the sale of varieties is important in the consumption of apples. It was also apparent that the wholesaler could influence the purchases of retailers. In New York the number of dealers who believed the demand for apples can be increased and those who expressed some doubt were about equal. Some were of the opinion that the demand could not be increased. Among those who felt that the demand could be increased the majority favored advertising. Other suggestions were: lower price, better pack, better distribution, better quality, and the control of bitter-pit. In advertising it was felt that the public should be educated as to the value of varieties, quality, and general dates of ripening. Seasonal advertising, in local papers and national magazines, window displays, and the radio were suggested. Those who favored lower prices

TABLE 23

Wholesalers' and Jobbers' Opinions and Practices with Reference to the Demand for Apples

| Markets | Opinions as to whether the demand for apples can be increased | | | | | | Suggestions for increasing demand | | | | | | | | Total replies | Reporting | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | Doubtful | | Advertising | | Lower prices* | | Better pack | | Other | | | Advertising | | Not advertising | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | | Number | Per cent | Number | Per cent |
| All California | 32 | 65 | 17 | 35 | 0 | 0 | 14 | 50 | 10 | 36 | 7 | 25 | 3 | 11 | 28 | 8 | 18 | 38 | 82 |
| Northern California | 20 | 83 | 4 | 17 | 0 | 0 | 6 | 43 | 7 | 50 | 4 | 29 | 3 | 21 | 14 | 5 | 24 | 16 | 76 |
| Southern California | 12 | 48 | 13 | 52 | 0 | 0 | 8 | 62 | 3 | 23 | 3 | 23 | 0 | 0 | 13 | 3 | 12 | 22 | 88 |
| New York | 10 | 36 | 7 | 25 | 11 | 39 | 6 | 50 | 2 | 17 | 1 | 8 | 5 | 42 | 12 | 3 | 14 | 19 | 86 |

* Dealers did not, of course, differentiate between the terms "demand" and "consumption."

emphasized "something which could be offered at a bargain." They wished to appeal to a price trade. One dealer felt that the demand might be increased through more export orders.

*Advertising Practices.*—Apple dealers, as is shown in table 23, reported doing little advertising. Those who did so reported that they contributed to advertising campaigns such as National Apple Week and that they sent circulars to their trade. Most apple dealers had posters in their place of business calling attention to brands of apples. However, this can hardly be considered as advertising.

The results obtained by those who advertised were reported as 'fair' and 'marked.' One exporter reported that his firm supported the 'Eat More Fruit' campaign of the Fruit Trades' Federations of Great Britain. The results of this campaign were reported as highly successful. The methods used and the type of advertising are described in a most interesting and comprehensive report issued by the Fruit Trades' Federations.[14] This report is worthy of consideration on the part of those who intend to advertise fruits.

New York dealers likewise do little advertising of apples with the aim of influencing the consumer. A review of the trade papers such as *The Packer* shows that advertisements are directed toward the trade rather than the consumer.

Approximately 40 per cent of the retailers reported that they advertise apples (table 24). The medium was either the daily newspaper or special hand bills distributed to homes in the vicinity of the store. Those who advertised in this manner stated that it results in a fair to marked increase in sales. Whenever a special bargain was offered the results were marked. As a whole, chain stores advertised to a considerable extent and featured apples when prices were low.

All but two of the retailers interviewed displayed apples. The most common method of display was on stands or benches. In the Los Angeles market the stores carrying fruits seldom have window front displays. Here apples are piled in the form of pyramids on benches which make a unique and attractive display. In northern California a majority of retailers used window displays as well as benches. Two displayed the apples on the sales counter. (See table 24.)

It was the unanimous opinion of retailers that displays were effective in increasing sales. Hannemann[15] reported this to be true in

[14] Fruit Trades' Federation. A report on National advertising and trade propaganda. 31 p. Fruit Trades' Federation, New Bridge Street, London, E. C. Not dated.

[15] Hannemann, H. A. Merchandizing apples in Pennsylvania. (*mimeo.*) p. 4. Pennsylvania Dept. Agr. Bur. Markets. March, 1927.

Pennsylvania cities. Sherman[16] believes that retail displays are the most effective method of increasing sales of fruits and vegetables and goes so far as to state that as a rule advertising of these products is a useless expenditure. It should, however, be pointed out in this connection that 14 per cent of the California consumers interviewed do not go to the store but order by telephone. Obviously, store displays alone will not reach them. Nevertheless, an advertising cam-

TABLE 24

ADVERTISING AND DISPLAYS OF APPLES BY RETAILERS

| Area | Reporting | | | | Total replies | | Method of display | | | | | | Total replies |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Advertising apples | | Not advertising apples | | | | In windows | | On benches | | On counters | | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number |
| | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8** | *9* | *10** | *11* | *12** | *13* |
| All California | 37 | 39 | 59 | 61 | 96 | 100 | 28 | 29 | 72 | 76 | 2 | 2 | 95 |
| San Francisco | 3 | 16 | 16 | 84 | 19 | 100 | 14 | 64 | 13 | 59 | 1 | 5 | 22 |
| Los Angeles | 21 | 47 | 25 | 53 | 46 | 100 | 0 | 0 | 50 | 100 | 0 | 0 | 50 |
| Alameda, Berkeley, and Oakland | 6 | 30 | 14 | 70 | 20 | 100 | 8 | 53 | 7 | 47 | 1 | 7 | 15 |
| Stockton and Sacramento | 7 | 64 | 4 | 36 | 11 | 100 | 6 | 75 | 2 | 25 | 0 | 0 | 8 |

*Items in columns 8, 10, and 12 will not in all cases total 100 because several retailers reported displaying apples in more than one place.

paign may well be directed at the retailer to encourage and assist him in making effective displays. The records of two attempts in Great Britain to advertise fruits and vegetables are worthy of attention. The British Glasshouse Produce Marketing Association reported:[17]

> After a year's experience it was realized that propaganda amongst retailers was needed and four travelling representatives were appointed.
>
> The first year's working in connection with the Fruit Trades Federation "Eat More Fruit Campaign" indicated that some organization amongst retailers was necessary if the full effect of propaganda was to be obtained and, as a result the Retailers' Propaganda Association was formed.

*Competition Between Varieties.*—California wholesale dealers were almost unanimous in their opinion that high or low prices of one

[16] Sherman, W. A. Merchandising fruits and vegetables. p. 356–373. A. W. Shaw Co., Chicago. 1923.

[17] Anonymous. Report on fruit marketing in England and Wales. Min. Agr. and Fisheries, Economic Series **15**:115. His Majesty's Stationery Office, London. 1927.

variety affected the demand and prices of other varieties. Most dealers illustrated this with varieties that were of the same utility. That is, a variety that was classed as a dessert apple if high in price would be affected by other dessert apples which were low in price. Few expressed an opinion as to whether substitution of cooking varieties would take place if dessert apples were too high. (See table 25.)

New York dealers were about equally divided as to the effect of prices of given varieties on the prices of other varieties. Those who believed that price would have no influence on demand, stated that customers called for a given variety regardless of price and that the

TABLE 25

WHOLESALERS' AND JOBBERS' OPINIONS WITH REFERENCE TO COMPETITION AMONG VARIETIES OF APPLES

| Markets | Opinions as to whether high or low prices of given varieties of apples affect the demand for and prices of other varieties | | | |
|---|---|---|---|---|
| | Yes | | No | |
| | Number | Per cent | Number | Per cent |
| All California | 44 | 95 | 2 | 5 |
| Northern California | 19 | 90 | 2 | 10 |
| Southern California | 25 | 100 | 0 | 0 |
| New York | 14 | 48 | 15 | 52 |

demand was for well-known standard varieties. Others stated that lower prices of nearby apples do not affect demand for boxed Gravensteins to any great extent. Others felt that the demand for given varieties shifts at certain price levels. Still others qualified their statements, reporting that some customers substitute varieties while others do not.

*Opinions as to Competition Between Fruits.*—Oranges and bananas, as is shown in tables 26 and 27, were reported by California dealers as the fruits which offered the greatest competition for apples. The fact that these three fruits are available during the greater part of the year accounts, no doubt, for this competition.

In California, all fruits in season were usually reported to give some competition to apples but most dealers did not feel that this competition is as severe as in the case of oranges and bananas. One dealer stated emphatically that a tariff is needed on bananas to increase apple sales. New York dealers listed oranges, pears, and

peaches as the greatest competitors of apples. Other competitors of considerable importance were grapefruit, grapes, and cantaloupes. A few dealers felt that if a customer desired apples he would purchase nothing else, hence there was no competition. Those listing cantaloupes, grapefruit, and berries felt that these fruits compete with apples as a breakfast dish. During the summer season pears and peaches were seen on the fruit stands in the largest quantities. Grapes and bananas probably follow a close second. There seems little doubt that oranges offer the greatest competition for winter apples. It is rather striking that only five of the wholesalers interviewed in New York listed bananas as competitors of apples.

WHOLESALERS' AND JOBBERS' OPINIONS AS TO WHICH FRUITS OFFER THE GREATEST COMPETITION FOR APPLES

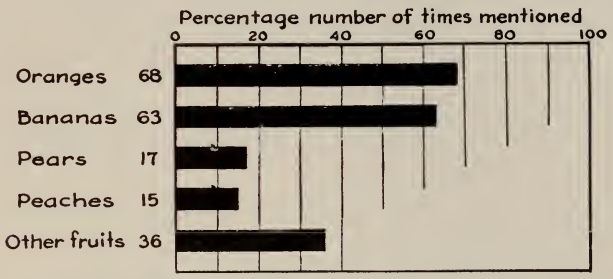



Fig. 2.—California wholesalers and jobbers consider oranges and bananas the most important competitors of apples. (Data from table 26.)

The observations of wholesalers and jobbers on the competition between fruits check closely with consumers' statements. Critchfield's[18] study of consumers' preference for canned peaches indicates that the housewife serves apples, bananas, and oranges more frequently than other fruits. Fig. 3 adapted from his study illustrates the relative importance of various fruits in the diet. A comparison of figures 2 and 3 shows that the opinions of wholesalers and jobbers as to competition between fruits were in close agreement with consumers' choice of fruits.

*Opinions as to How Apple Marketing May be Improved.*—From the answers to the question as to how apple marketing could be improved it was evident that only a few dealers had given this serious consideration. The most usual reply was better grading and packing (tables 28 and 29). In southern California a frequent suggestion was "new boxes." A suggestion made by one dealer in a northern

[18] Critchfield, B. H. Problems involved in the marketing of California canned peaches. p. 41. California Canning Peach Growers, San Francisco. 1929.

TABLE 26

WHOLESALERS' AND JOBBERS' OPINIONS AS TO FRUITS COMPETING WITH APPLES

(Expressed as number and percentage of dealers reporting competition from each fruit mentioned)

| Markets | Oranges | | Bananas | | Grapefruit | | Peaches | | Pears | | Others | | None | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Total replies |
| All California | 28 | 68 | 26 | 63 | 0 | 0 | 6 | 15 | 7 | 17 | 15 | 86 | 0 | 0 | 41 |
| Northern California | 18 | 100 | 13 | 72 | 0 | 0 | 4 | 22 | 2 | 11 | 4 | 22 | 0 | 0 | 18 |
| Southern California | 10 | 43 | 13 | 57 | 0 | 0 | 2 | 9 | 5 | 22 | 11 | 48 | 0 | 0 | 23 |
| New York | 19 | 79 | 5 | 21 | 8 | 33 | 13 | 54 | 16 | 67 | 16 | 67 | 4 | 17 | 24 |

California market was that cars be precooled before shipment. In view of the danger of the development of bitter-pit in California apples this suggestion warrants attention.

TABLE 27

Brokers' and Distributors' Opinions as to Which Fruits Offer the Greatest Competition for Apples

(Expressed as number and percentage of dealers reporting competition from each fruit mentioned.)

| Markets | Oranges | | Bananas | | Peaches | | Pears | | All fruits | | Total replies |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number |
| | *1* | *2** | *3* | *4** | *5* | *6** | *7* | *8** | *9* | *10** | *11* |
| All California | 12 | 63 | 10 | 53 | 4 | 21 | 5 | 26 | 10 | 53 | 19 |
| Northern California | 6 | 60 | 5 | 50 | 3 | 30 | 4 | 40 | 6 | 60 | 10 |
| Southern California | 6 | 67 | 5 | 56 | 1 | 11 | 1 | 11 | 4 | 44 | 9 |
| New York | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 17 | 5 | 83 | 6 |

*Columns 2, 4, 6, 8, and 10 will not total 100 owing to the fact that several mentioned more than one fruit as a competitor of the apple.

FRUITS MOST FREQUENTLY SERVED BY CONSUMERS

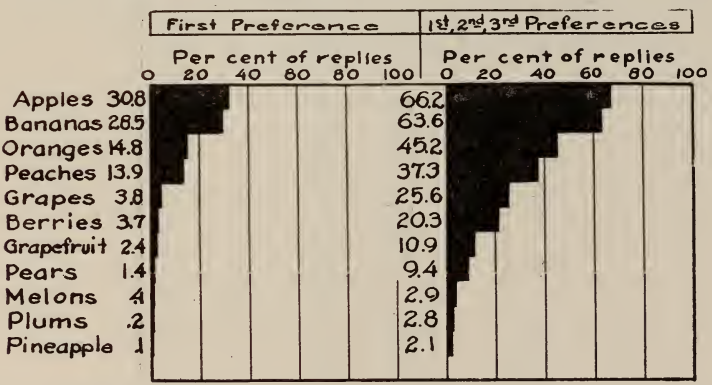



Fig. 3.—Apples, bananas, oranges, and peaches in the order named are the fruits most frequently served by consumers. (Figure adapted from: Critchfield, B. H. Problems involved in the marketing of California canning peaches. Pamphlet published by California Canning Peach Growers. fig. 24, p. 41. 1929.)

Many eastern dealers had no suggestions to make regarding improvement of apple marketing. Those who did reply were of various opinions. Better grading and packing and heavier packs with more color on the fruit were mentioned.

In answer to the question "Does a fancy package help sell?" 37 California wholesalers reported that it did and six that it did not.

## TABLE 28

### Wholesalers' and Jobbers' Opinions on Methods of Improving Apple Marketing

| Markets | Number offering suggestions | Suggestions on improvement | | | | | | | | | | | | | | Opinions as to whether a fancy package is a selling aid | | | | Opinions as to whether price control at shipping point would improve apple marketing | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Better grading | | Better sizing | | Better packing | | Advertising | | New boxes | | Better quality | | Others | | Yes | | No | | Yes | | No | | Doubtful | |
| | | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 47 | 33 | 70 | 6 | 13 | 15 | 32 | 4 | 9 | 10 | 21 | 5 | 11 | 7 | 15 | 37 | 86 | 6 | 14 | 22 | 50 | 15 | 34 | 7 | 16 |
| Northern California | 22 | 14 | 88 | 0 | 0 | 11 | 50 | 4 | 18 | 0 | 0 | 0 | 0 | 2 | 9 | 12 | 67 | 6 | 33 | 11 | 50 | 6 | 27 | 5 | 23 |
| Southern California | 25 | 19 | 76 | 6 | 24 | 4 | 16 | 0 | 0 | 10 | 40 | 5 | 20 | 5 | 20 | 25 | 100 | 0 | 0 | 11 | 50 | 9 | 41 | 2 | 9 |
| New York | 10 | 4 | 40 | 1 | 10 | 4 | 40 | 1 | 10 | 0 | 0 | 4 | 40 | 6 | 60 | 4 | 50 | 4 | 50 | 1 | 11 | 6 | 67 | 2 | 22 |

TABLE 29

BROKERS' AND WHOLESALERS' OPINIONS ON METHODS OF IMPROVING APPLE MARKETING

| Markets | Suggestions on improvement | | | | | | | | | | | | | | | | | | Opinion as to whether a fancy packing is a selling aid | | | | | | Opinion as to whether price control at shipping point would improve apple marketing | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Better grading | | New boxes | | Clean apples | | Lower opening prices | | Advertising | | Better distribution | | Better crop estimates | | Others | | Total replies | | Yes | | No | | Total replies | | Yes | | No | | Doubtful | | Total replies | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 8 | 42 | 4 | 21 | 1 | 5 | 3 | 16 | 1 | 5 | 0 | 0 | 0 | 0 | 5 | 26 | 19 | 100 | 15 | 88 | 2 | 12 | 17 | 100 | 5 | 33 | 6 | 40 | 4 | 27 | 15 | 100 |
| Northern California | 2 | 22 | 0 | 0 | 0 | 0 | 1 | 11 | 1 | 11 | 1 | 11 | 0 | 0 | 4 | 44 | 9 | 100 | 8 | 80 | 2 | 20 | 10 | 100 | 3 | 38 | 4 | 50 | 1 | 12 | 8 | 100 |
| Southern California | 6 | 60 | 4 | 40 | 1 | 10 | 2 | 20 | 0 | 0 | 1 | 10 | 0 | 0 | 1 | 10 | 10 | 100 | 7 | 100 | 0 | 0 | 7 | 100 | 2 | 29 | 2 | 29 | 3 | 42 | 7 | 100 |
| New York | 2 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 43 | 3 | 43 | 4 | 57 | 7 | 100 | 3 | 60 | 2 | 40 | 5 | 100 | 1 | 15 | 6 | 85 | 0 | 0 | 7 | 100 |
| All eastern | 2 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 43 | 3 | 43 | 4 | 57 | 7 | 100 | 3 | 50 | 3 | 50 | 6 | 100 | 2 | 20 | 8 | 80 | 0 | 0 | 10 | 100 |

(See table 28.) However, in answering this question most dealers qualified their answer by stating that the factor of prime importance was the quality of the fruit. Those dealers who had handled apples packed in boxes with linings of fancy paper and colored cleats were, however, definite in their statements that the fancy package helped to sell.

In reply to the question as to the value of fancy packages as an aid to selling, New York dealers were about equally divided in their opinion. Dealers in other eastern markets were practically unanimous in stating that a fancy package did not help to sell—that buyers are looking for quality in the product.

The wholesale trade was asked whether price control at shipping point would improve apple marketing. The question referred to the practice of making uniform price quotations in a shipping district rather than to an attempt to hold prices at an arbitrarily fixed level. However, some dealers interpreted it to mean price fixing or the naming of a price which was out-of-line with market conditions. The opinions of wholesalers and jobbers in California were 22 yes, and 15 no, and 7 qualified or doubtful (table 28). Most of those who said that it would not aid, felt that it could not be done. Several stated that it would be satisfactory if opening prices were not too high. They suggested a low opening price and then a raising of prices later rather than too high an opening price which would have to be lowered to encourage consumption.

Eastern dealers were skeptical of price control and practically unanimous against such a policy. Price control was interpreted as price fixing.

## ATTITUDE OF MARKETS OTHER THAN THOSE COVERED BY THE DETAILED SURVEY TOWARD CALIFORNIA GRAVENSTEINS

Through the courtesy and cooperation of Mr. H. R. Tolley, then Assistant Chief of the Bureau of Agricultural Economics, a survey was made of several of the principal cities in the United States to determine the attitude of these markets to California Gravensteins. The representatives of the Bureau interviewed the wholesale trade and reported its opinions on several specific questions. The replies are tabulated in table 30.

As will be noted from table 30, the various markets presented considerable contrast in their attitude toward Gravensteins. Some reported that the quality and condition was satisfactory while others

TABLE 30

Summary of Market Attitudes Toward California Gravensteins*

| Market | Quality of California Gravensteins in 1929, 1928 and 1927 | Improvements suggested | Attitude of trade toward California Gravensteins | Competition of California Gravensteins with other fruits | Opinion as to whether it would pay to store Gravensteins to lengthen their marketing season | Opportunity of expanding the consumption of Gravensteins |
|---|---|---|---|---|---|---|
| Atlanta, Ga. | No reply. | No reply. | Apples from northern Georgia in favor. | Northern Georgia apples. | No reply. | None excepting when crop failure locally. |
| Baltimore, Md. | "Fancy" and "Extra Fancy" satisfactory; but C grade poor. | Improve pack of C grade. | Favorable, but local low - priced apples compete severely. | Rambos from Md., Va., Del., and Pa.; peaches from Md., Va., and Pa.; grapes from Calif., Del., and Md.; oranges and plums from Calif., bananas. | No; Grimes Golden appear on market, which are preferred. | No, unless prices were materially reduced. Rambos selling $2.25 per bu. and Gravensteins $3.25 to $3.35 a box. |
| Buffalo, N. Y. | High eating quality but poor color and poor shape. | More color. | Indifferent to them because of lack of color and other early apples. | Williams Red, Red Astrachan, and Yellow Transparent from Del., Md., and Va. | No reply. | Only when eastern U. S. has short crop. |
| Cincinnati, Ohio. | 1928 good quality and pack; 1929 only one car handled, quality not high. | None. | Quality good, but too high in price to compete with basket supplies. | Apples in bushels from Ill., Del., West Va., Ind., Mich., and N. Y. | No; dealers want them only when other fancy dessert varieties not available. | Problematical; suggest that carloads be placed on auction all during season. |
| Columbus, Ohio. | None handled. | No reply. | No reply. | Local Duchess and Transparent. | No reply. | No reply. |
| Denver, Colo. | Satisfactory except first shipments too green. | No reply. | Red apples favored. | Apples from Colo. and N. Mex. | No. | Only through lower prices when other varieties not available. |
| Detroit, Mich. | 1927 and 1928 better than 1929; too much C grade in 1929; lack of quality and appearance of pack. | Better grading and packing, more uniform quality. | Favorable but red varieties preferred. | Apples from Del., and Ill.; small fruits from Calif.; cantaloupes from Ariz. and Calif.: peaches from southern states. | No; Jonathans take the market when they appear. One dealer sustained heavy loss holding too long in 1929. | Very little. |

*As reported by the Bureau of Agricultural Economics through the Market News Service and Food Products Inspection Service. Courtesy H. R. Tolley, Assistant Chief, Bureau of Agricultural Economics.

TABLE 30—*Continued*

| Market | Quality of California Gravensteins in 1929, 1928 and 1927 | Improvements suggested | Attitude of trade toward California Gravensteins | Competition of California Gravensteins with other fruits | Opinion as to whether it would pay to store Gravensteins to lengthen their marketing season | Opportunity of expanding the consumption of Gravensteins |
|---|---|---|---|---|---|---|
| Fort Worth, Tex. | Satisfactory except for color and bitter-pit. | Less bitter—pit and more color. | Red varieties preferred. | Apples from Ark., and Mo., N. Mex. | No. | None. |
| Harrisburg, Pa. | None on market. | No reply. | Local apples exclude them. | Local apples. | No reply. | None. |
| Houston, Tex. | Fair; bitter-pit and over maturity; lack of color. | Don't send apples with bitter - pit to this market; hot climate develops it rapidly. | Cheaper apples with red color preferred. | Apples from Ariz. and N. Mex. Grapes and other deciduous fruits from Calif. | No; red apples with lower freight rates take the market. | None. |
| Indianapolis, Ind. | Size and pack satisfac- factory but poor color | None. | No reply. | Apples from southern Ind., cherries and apricots. | No; competition from late apples too severe | None. |
| Jacksonville, Fla. | Quality and pack considered good; C grade irregular in size. | More uniform size on C grade and closer grading for scab. | Favorable; compare well with other apples. | Apples from northern Ga., N. C. and Va., cheap off-grade and overripe peaches from Ga., grapes and pears from West, plums from Ga. and Fla. | No; red apples preferred. | None unless prices are lowered materially to compete with cheap fruits. |
| Kansas City, Mo. | No reply. | No reply. | High dessert quality but too high in price for the trade. | Yellow Transparent, and Duchess from Ark., Mo., and Kan., cantaloupes from Colo., pears, melons, oranges. | Storing would be disastrous; Jonathans and Grimes Golden take the market. | Only possibility is to sell them before local apples are available. |
| Memphis, Tenn. | Satisfactory. | None. | Favorable; first arrivals find a bare market. | Apples from Ark., Ill., and Mo. after middle of July. | No; Jonathans take the market when they arrive. | None; jobbers have lost money on them. |

TABLE 30—*Continued*

| Market | Quality of California Gravensteins in 1929, 1928 and 1927 | Improvements suggested | Attitude of trade toward California Gravensteins | Competition of California Gravensteins with other fruits | Opinion as to whether it would pay to store Gravensteins to lengthen their marketing season | Opportunity of expanding the consumption of Gravensteins |
|---|---|---|---|---|---|---|
| Milwaukee, Wis. | Grading and packing satisfactory but too immature and lacking in color. | More maturity | Favorable; first arrivals find a bare market. | Apples from Mich. and Ill. after July 15; plums, pears, and peaches from Calif. | No; McIntosh and Jonathans more popular; dealers lost on them holding too long in 1929. | Possible to move greater quantities if more mature, more color, and lower prices, before Jonathan is on the market. |
| Minneapolis, Minn. | Satisfactory except for sizing and slack pack, and color. | Tighter pack and more uniform sizing. | Not in favor compared with local apples. | Various fruits from Calif., local and western berries. | No | None, on account of lack of red color. |
| New Haven, Conn. | None on the market | No reply | Lack of color and local supplies exclude them. | Local supplies of apples when California Gravenstein is marketed | No; local supplies too abundant. | None. |
| New Orleans, La. | Bitter - pit objectionable on large sizes. | No reply | Use Gravensteins only when other varieties not available. | No reply | No; red apples preferred. | No reply. |
| Norfolk, Va. | Fair, but pack somewhat slack. | Tighter pack and fewer blemishes. | Principal demand from Navy, which requires boxed apples. | Apples from Va. and Md., grapes, pears, plums, and oranges from Calif., cantaloupes from Md. and Colo. | No; other varieties of apples preferred when available. | No; Grimes Golden preferred. |
| Omaha, Neb. | Satisfactory | None | Not popular because of lack of red color; Jonathan the favorite. | Jonathans from Ill., Mo., Kan., and Neb. | No; Jonathan competition; dealers lost on Gravensteins in 1929 by holding too long. | Only by lower prices. |
| Pittsburgh, Pa. | 1929 better than 1928; 1928 stock was too immature. | Better grading and packing. | Favorable if good quality and condition; a premium of $1 and $1.50 per box over local apples in bushels. | Peaches from N. Y., N. J., Pa., Ohio, and W. Va.; pears from Calif., Mich., and N. Y., grapes. | No; local apples appear. | No; demand limited. |

TABLE 30—*Concluded*

| Market | Quality of California Gravensteins in 1929, 1928 and 1927 | Improvements suggested | Attitude of trade toward California Gravensteins | Competition of California Gravensteins with other fruits | Opinion as to whether it would pay to store Gravensteins to lengthen their marketing season | Opportunity of expanding the consumption of Gravensteins |
|---|---|---|---|---|---|---|
| Portland, Ore. | Fair; lack of color and bitter-pit objectionable. | Sort more carefully for bitter-pit. | Favorable until local supplies available. | Gravensteins from Ore. and Wash. at end of season; local cherries and berries. | No; Oregon and Wash. Gravensteins are cheaper; only advisable if local fruit scarce. | Yes, if quality good and prices low or local fruit crop is a failure. |
| Providence, R. I. | Very good except for bitter-pit. | Eliminate bitter-pit | Regarded as a novelty. | Local summer apples | No; home-grown local supplies take market | Only when local crop is a failure. |
| St. Louis, Mo. | No reply | No reply | Not in favor; Ill. apples preferred. | Apples from Calhoun Co., Ill. | No reply | None except in years of crop failure in Ill. |
| Salt Lake City, Utah | Good, but not equal to Washington Gravensteins. | None | Favorable | Local Astrachans and Yellow Transparents. | No | Lower prices would expand sales. |
| Seattle, Wash. | Notable improvement in quality in last few years. | Eliminate bitter-pit | Favorable | Cherries, plums, peaches and apricots from Calif. | No; local apples take the market. | Yes, when consumers learn the high quality of the Gravenstein. |
| Springfield, Mass. | None on the market | No reply | Not wanted because of lack of red color. | Native Gravenstein | No reply | None. |
| Toledo, Ohio | Satisfactory | None | Favorable, but local apples cheaper. | Apples from Mich., Ill., Ind., and Ohio; pears and plums from Mich.; peaches from Mich., Ill, Ind., and Ohio. | No | None. |
| Washington, D. C. | Satisfactory except for bitter-pit. | None | Local apples in greater favor. | Yellow Transparent, Oldenburg and Early Harvest from Md. and Va. | No | None. |

had objections. The principal objections were lack of color, immaturity (although one market complained that the apples were too mature), bitter-pit, and slack pack.

Many of the markets were not favorable toward the Gravenstein owing to its high price in comparison with other apples. It was recognized as a high-quality dessert apple but local apples were sold, it was stated, at lower prices.

Other fruits competed with the California Gravenstein most severely in southern markets. It is worthy of note that the northern markets were in general more favorable to the Gravensteins than southern markets. It has often been stated that the apple is a cool-weather fruit. This survey tends to bear this out.

All markets reported that it would be folly to store the Gravenstein to lengthen its marketing season. Competition from other varieties was too severe to make storage feasible. Several instances of dealers losing money by holding Gravensteins too long in 1929 were cited.

The majority opinion was that the demand for Gravensteins was very limited. Most cities reported that it would not be possible to expand consumption unless prices were materially lowered or local apple crops were failures.

## CONSUMERS' PREFERENCES AND PURCHASES OF APPLES

The data in the survey of consumers' preferences and purchases of apples were obtained through personal interview with 649 consumers. A list of 21 questions covering the information desired was asked of each person.

The area covered in the survey comprised selected districts in the city of Los Angeles and in the cities of San Francisco, Oakland, and Berkeley. The selected districts were chosen in conference with representatives of various organizations. An effort was made to select districts which were typical for those persons having a low, medium, and high income.

Two separate surveys were made, the first during the months of July and August when the early varieties of apples were on the market, and the second during the months of October and November when several of the late varieties were available. The first survey included 344 consumers and the second 305. The data obtained in the two surveys are combined in this report, but mention will be made of differences where they occur. As a whole, the surveys were in close

agreement. Slight differences were considered immaterial because these may have been due to variations in the presentation of questions by the interviewer.

*Qualities Desired in Apples.*—The quality most desired was that of "flavor" or "taste." More than 40 per cent stated that they bought apples for their "taste." (See table 31.) Some demanded a juicy apple, others a sweet apple, and a third group a tart apple. The

TABLE 31

REASONS GIVEN BY CONSUMERS FOR PURCHASING APPLES AND QUALITIES DESIRED IN APPLES

| Reasons for purchasing apples and qualities desired | All California | | Northern California | | Southern California | |
|---|---|---|---|---|---|---|
| | Number | Per Cent | Number | Per cent | Number | Per cent |
| | *1* | *2** | *3* | *4** | *5* | *6** |
| Taste | 272 | 42.0 | 148 | 42.7 | 124 | 41.0 |
| Better cooking | 145 | 22.4 | 102 | 29.2 | 43 | 14.2 |
| Quicker cooking | 15 | 2.3 | 5 | 1.4 | 10 | 3.3 |
| Suitable for both cooking and eating | 105 | 16.2 | 44 | 12.7 | 61 | 20.2 |
| Better keeping | 29 | 4.5 | 29 | 8.4 | 0 | 0.0 |
| Available | 28 | 4.3 | 22 | 6.4 | 6 | 2.0 |
| Firmness | 34 | 5.2 | 33 | 9.5 | 1 | 0.3 |
| Habit | 40 | 6.2 | 34 | 9.8 | 6 | 2.0 |
| Color | 6 | 0.9 | 6 | 1.7 | | |
| Price | 13 | 2.0 | 12 | 3.5 | 1 | 0.3 |
| Appearance | 12 | 1.9 | 8 | 2.3 | 4 | 1.3 |
| "Likes them" | 54 | 8.4 | 12 | 3.5 | 42 | 13.9 |
| Other reasons** | 19 | 2.9 | 17 | 4.9 | 2 | 0.6 |
| No answer | 80 | 12.3 | 40 | 11.5 | 40 | 13.2 |
| Number of interviews | 649 | | 347 | | 302 | |

*Columns 2, 4, and 6 total more than 100 per cent owing to the fact that several named more than one desired quality.

**Other reasons include "takes what's recommended," "knows them," "thin skin," "family's preference," "quality."

majority merely indicated that the apple must have "flavor." Next in order of importance was "good cooking quality." Approximately 20 per cent reported this characteristic as essential. Other qualities looked for were "keeping" quality, "firmness," "color," and "appearance."

This is in general agreement with a similar study conducted by Myrtle Sunselman in Chicago. Dummeier[19] summarizes her study: "In a house-to-house canvass made in Chicago representatives of 250 families were asked what varieties of eating apples they preferred

[19] Dummeier, E. F. Marketing of Pacific Coast fruits in Chicago. Unpublished thesis in the Department of Political Economy, University of Chicago. p. 234. 1926.

and why. Answers were secured from 182 persons. Of these 182 persons, 96 (53 per cent) gave as their reason for preferring the apple named that it was juicy, 40 (22 per cent) it was firm and crisp, 25 (14 per cent) that it was tart and spicy, and only 3 (2 per cent) named color as the reason for their choice.'' Critchfield[20] in a recent study of consumers' preferences for canned peaches states: ''In order of frequency of mention the reasons given by housewives were: flavor, sweetness, size, uniformity, price, color, freedom from blemishes, and workmanship.''

It is apparent from these various studies that ''flavor'' or ''taste'' are of prime consideration in the purchase of fruits.

*Variety Preferences.*—The California consumer found it difficult to classify variety preferences, owing to lack of knowledge of varieties.

French[21] reported a similar experience in a study of consumer demand for apples in New York City. In northern California Newtowns[22] and Gravensteins were mentioned more often than others as preferred apples. Both varieties were named as eating and as cooking apples, the Newtown being mentioned more often as a cooking apple and the Gravenstein about equally as an eating apple and a cooking apple. (See table 31 and fig. 4.) In the first survey mentioned on page 51 the Gravenstein was named more frequently as a preferred variety. This is no doubt due to the fact that the Gravenstein was on the market at that time, whereas when the second survey was conducted it was no longer available. However, consumers with high and medium incomes more frequently classed the Gravenstein as a cooking apple while those with a low income favored it slightly as an eating apple. The Spitzenburg came next in importance. The Bellflower was mentioned by 31 per cent and the Jonathan by 26 per cent of the consumers in the northern district. The Bellflower was considered about equally as an eating and as a cooking apple, while the Jonathan was classed almost exclusively as an eating apple. (See tables 32 and 33.)

In southern California, Newtown, Gravenstein, and Spitzenburg were seldom named as preferred varieties, whereas the Bellflower and

[20] Critchfield, B. H. Problems involved in the marketing of California canned peaches. p. 10–11. California Canning Peach Growers, San Francisco. 1929.

[21] French, E. R. Consumer demand for apples in New York City. Bur. Agr. Econ. Typed report. p. 8. July, 1927.

[22] The consumer called Newtowns, ''Pippins,'' but in accordance with the classification of the American Pomological Society they are referred to as Newtowns in this report.

Jonathan were reported frequently. Thus there was a decided contrast between the two California districts. In the southern district the Bellflower was considered chiefly as a cooking apple and the Jonathan as an eating apple.

TABLE 32

CONSUMERS' PREFERENCE FOR VARIETIES BY DISTRICTS

| Variety | All California | | | | Northern California | | | | Southern California | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mentioned as eating apple | | Mentioned as cooking apple | | Mentioned as eating apple | | Mentioned as cooking apple | | Mentioned as eating apple | | Mentioned as cooking apple | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| | *1* | *2** | *3* | *4** | *5* | *6** | *7* | *8** | *9* | *10** | *11* | *12** |
| Newtown | 197 | 30 | 258 | 40 | 193 | 56 | 234 | 68 | 4 | 1 | 24 | 8 |
| Gravenstein | 151 | 23 | 151 | 23 | 146 | 42 | 143 | 41 | 5 | 2 | 8 | 3 |
| Spitzenburg | 132 | 20 | 37 | 6 | 130 | 37 | 37 | 11 | 2 | 1 | 0 | 0 |
| Bellflower | 169 | 26 | 289 | 45 | 107 | 31 | 91 | 27 | 62 | 21 | 198 | 66 |
| Jonathan | 292 | 45 | 56 | 9 | 95 | 26 | 27 | 8 | 197 | 65 | 29 | 10 |
| Others | 136 | 21 | 31 | 5 | 59 | 17 | 20 | 6 | 77 | 26 | 11 | 4 |
| Number of Interviews | 649 | | 649 | | 347 | | 347 | | 302 | | 302 | |

*Columns 2, 4, 6, 8, 10, and 12 will not total 100 per cent, because several indicated a preference for more than one variety.

CONSUMERS' PREFERENCE FOR VARIETIES OF APPLES BY DISTRICTS

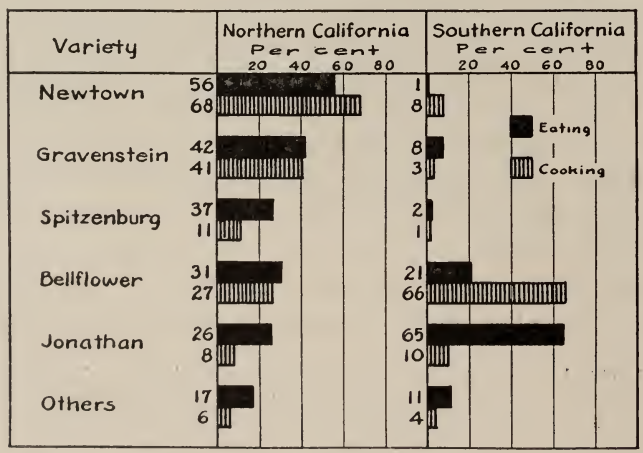



Fig. 4.—The Gravenstein and Newtown are preferred both as eating and cooking apples in northern California, while the Jonathan is preferred for eating and the Bellflower for cooking in southern California. (Data from table 32.)

TABLE 33

Consumers' Preferences for Varieties by Income Groups

| | Varieties | Income groups | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | All | | Low | | Medium | | High | |
| | | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| | | *1* | *2** | *3* | *4** | *5* | *6** | *7* | *8** |
| Eating Apples | Newtown | 197 | 30 | 79 | 38 | 71 | 31 | 47 | 22 |
| | Gravenstein | 151 | 23 | 51 | 25 | 49 | 21 | 51 | 24 |
| | Spitzenburg | 132 | 20 | 37 | 18 | 49 | 21 | 46 | 22 |
| | Bellflower | 169 | 26 | 60 | 29 | 66 | 29 | 43 | 20 |
| | Jonathan | 292 | 45 | 89 | 43 | 104 | 45 | 47 | 99 |
| | Others | 136 | 21 | 23 | 11 | 54 | 23 | 59 | 28 |
| Cooking Apples | Newtown | 258 | 40 | 80 | 38 | 103 | 45 | 75 | 36 |
| | Gravenstein | 151 | 23 | 39 | 19 | 58 | 25 | 54 | 26 |
| | Spitzenburg | 37 | 6 | 12 | 6 | 10 | 4 | 15 | 7 |
| | Bellflower | 289 | 45 | 103 | 50 | 88 | 38 | 98 | 47 |
| | Jonathan | 56 | 9 | 19 | 9 | 18 | 8 | 19 | 9 |
| | Others | 31 | 5 | 6 | 3 | 11 | 5 | 14 | 7 |
| | Number of interviews | 649 | | 203 | | 231 | | 210 | |

*Columns 2, 4, 6, and 8 do not add to 100 because some consumers mentioned more than one variety.

CONSUMERS' PREFERENCE FOR VARIETIES OF APPLES BY INCOME GROUPS

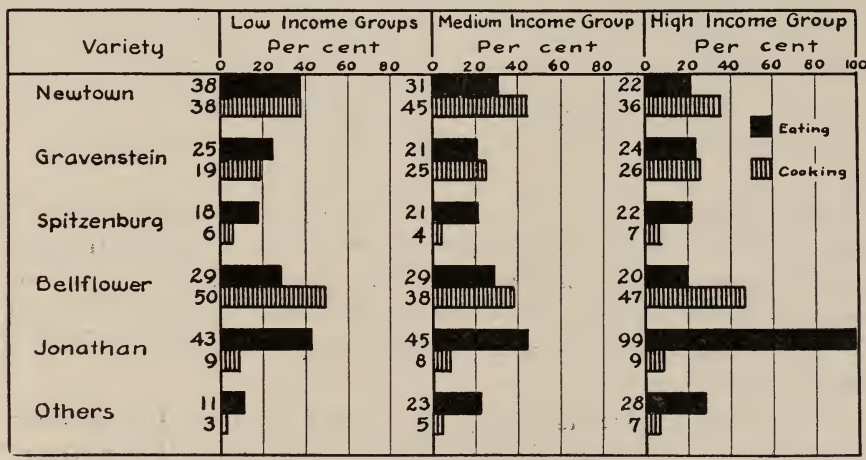



Fig. 5.—The high income group has a distinct preference for the Jonathan as an eating apple. (Data from table 33.)

*Size Preferences.*—Nearly 50 per cent of the consumers stated a definite preference for medium-sized apples (table 34). Only 2 per cent preferred small sizes, while approximately 13 per cent preferred large apples. The remainder reported that size was not a factor influencing their purchases.

*Color Preferences.*—The red apple led in color preference, although not to the extent one might expect. Forty-two per cent reported red

TABLE 34

CONSUMERS' SIZE PREFERENCES

| Preferred size | Consumers' replies | |
|---|---|---|
| | Number | Per cent |
| Small | 11 | 1.7 |
| Medium | 328 | 50.7 |
| Large | 96 | 14.8 |
| No preference | 227 | 35.0 |
| Number of interviews | 649 | |

TABLE 35

CONSUMERS' COLOR PREFERENCE

| Preferred color | Consumers' replies | |
|---|---|---|
| | Number | Per cent |
| Red | 272 | 42 |
| Yellow | 7 | 1 |
| Green | 40 | 6.2 |
| No preference | 330 | 50.8 |
| Number of interviews | 649 | |

as the preferred color, 1 per cent yellow, 6 per cent green, while 50 per cent stated they had no preference (table 35). The most frequent qualifying statement, when any was given, was that red apples were bought for the children. French[23] reported that consumers thought red color indicated good eating quality and associated green color with cooking quality.

*Knowledge of Brands.*—Only 18 per cent of the consumers interviewed had a knowledge of apple brands (table 36). "Hood River" was named almost exclusively. The brands "Wolverne," "Skoo-

[23] French, E. R. Consumer demand for apples in New York City. Bur. Agr. Econ. Typed report. pp. 9 and 10. July, 1927.

kum," and "Rogue River" were each reported once. The New York study[24] was in close agreement with these results where it was found that only 15 per cent of the consumers could recall the names of apple brands. In a study conducted in Chicago by Myrtle Sunselman

TABLE 36

Consumers' Knowledge of Apple Brands

| Brands named by the consumer | All California | | Northern California | | Southern California | |
|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent |
| "Hood River" | 114 | 17.5 | 106 | 30.6 | 8 | 2.7 |
| "Skookum" | 3 | 0.4 | 3 | 0.8 | 0 | 0.0 |
| "Rogue River" | 1 | 0.1 | 1 | 0.3 | 0 | 0.0 |
| "Wolverne" | 1 | 0.1 | 0 | 0.0 | 1 | 0.3 |
| None | 530 | 81.9 | 237 | 68.3 | 293 | 97.0 |
| Total | 649 | 100.0 | 347 | 100.0 | 302 | 100.0 |

TABLE 37

Consumers' Practices in Buying Early Immature Apples

| | Income group | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | All | | Low | | Medium | | High | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| Not purchasing early immature apples | 400 | 61.7 | 141 | 67.8 | 144 | 62.3 | 115 | 54.8 |
| Purchasing early immature apples | 249 | 38.3 | 67 | 32.2 | 87 | 37.7 | 95 | 45.2 |
| Purchasing for a definite reason* | 148 | 22.8 | 34 | 16.3 | 53 | 23.0 | 61 | 29.0 |
| Number of replies | 649 | | 208 | | 231 | | 210 | |

*Indicates that a specific reason such as "for cooking," "for jelly," etc., was given for buying and not merely because they were available.

and reported by Dummeier[25] it was stated that of the entire 250 persons not one was able to name a single brand.

*Early Apple Purchases.*—The number of consumers who reported purchasing early immature apples was less than 40 per cent, although it was considerably greater in northern than in southern California. In table 37 it is shown, however, that in both districts a greater num-

[24] French, E. R. Consumer demand for apples in New York City. Bur. Agr. Econ. Typed report. pp. 9–10. July, 1927.

[25] Dummeier, E. F. Marketing of Pacific Coast fruits in Chicago. Unpublished Thesis in the Department of Political Economy, University of Chicago. p. 241. 1926.

ber of families with high incomes purchased early immature apples than did those in the other income groups. The proportion of persons who bought early apples for a definite reason, i.e., for cooking or jelly-making as contrasted with persons who merely bought because they were available, was greater in the northern district and in the higher income groups.

Purchases of early Gravensteins were likewise more frequent in northern California than in southern California. However, the income status showed little effect upon the quantity purchased.

In reply to a specific question as to whether the immaturity of early Gravensteins influenced consumers against making purchases

TABLE 38

EFFECT OF THE PURCHASE OF IMMATURE GRAVENSTEINS ON LATER PURCHASERS

| Consuming District | Total | | Those who purchased early Gravensteins | | | | Those who did not purchase early Gravensteins | | Total replies |
|---|---|---|---|---|---|---|---|---|---|
| | | | Later purchases not affected by immaturity | | Later purchases affected by immaturity | | | | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | |
| All California | 267 | 41 | 250 | 94 | 17 | 6 | 382 | 59 | 649 |
| Northern California | 220 | 63 | 204 | 93 | 16 | 7 | 127 | 37 | 347 |
| Southern California | 47 | 16 | 46 | 98 | 1 | 2 | 255 | 84 | 302 |

of the same variety when it was mature, only 6 per cent reported that it did (table 38). It must be remembered, however, that table 38 shows that only 41 per cent of the consumers reported purchasing early Gravensteins. Perhaps the 59 per cent who did not purchase early Gravensteins were prejudiced against them. No doubt this is true because as will be shown in table 45, the most important use made of apples is for eating out of hand. Thus it is apparent that the demand for early immature apples is rather limited.

It was interesting to note that in the first survey, which was made while the Gravenstein was on the market, a greater percentage of the consumers reported that they were influenced against making additional purchases of Gravensteins because of their immaturity than in the second survey, when the Gravenstein was not available.

*Purchases of Processed Apples.*—California consumers used processed apples to a very limited extent. Only 4.2 per cent reported

that they purchased dried apples and 3.5 per cent canned apples (table 39).

Dried apples were bought to a greater extent by the groups with low and medium incomes than by those with high incomes. Canned apples were purchased most frequently by the low income group. However, the purchase of canned or dried apples may vary to a considerable extent by geographical areas. Critchfield,[26] for example, reports that 20.4 per cent of the housewives in eastern cities used dried apples.

TABLE 39

Consumers' Purchases of Processed Apples

| Process | Income groups | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | All | | Low | | Medium | | High | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| Dried | 27 | 4.2 | 10 | 4.8 | 13 | 5.6 | 4 | 1.9 |
| Canned | 23 | 3.5 | 12 | 5.8 | 7 | 3.0 | 4 | 1.9 |
| Number of interviews | 649 | | 203 | | 231 | | 210 | |

*Method of Purchase.*—The consumers' procedure in purchasing foodstuffs showed marked variance among the different income groups. Table 40 and fig. 6 show that as the income increased there was a constant increase in the number who ordered by telephone and a steady decrease in the number who purchased at the store or from the wagon dealer. Where one person in 100 made his purchases by telephone in the low income group, there were 11 in the medium income group, and 26 in the high income group who bought in this manner. Likewise, there was a relatively larger percentage of deliveries made to the homes of the higher income group.

The method of purchase assumes considerable importance when advertising is contemplated. This will be brought out more fully in connection with the survey of retailers' operations and practices. (See pages 66–67.)

*Quantity Purchased.*—It was not possible to determine by inquiry the quantity of apples that was usually purchased by the three income groups. Practices of individual consumers varied to such an extent from time to time that it was difficult to name the quantity usually

[26] Critchfield, B. H. Problems involved in the marketing of California canned peaches. California Canning Peach Grower. pp. 10–11. San Francisco. 1929.

## TABLE 40

CONSUMERS' PROCEDURE IN MAKING PURCHASES AND PRACTICE WITH REFERENCE TO DELIVERY OF PURCHASES

| Method of purchase | Income groups | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | All | | | | Low | | | | Medium | | | | High | | | |
| | Reported method of purchase | | Reported delivery of purchase | | Reported method of purchase | | Reported delivery of purchase | | Reported method of purchase | | Reported delivery of purchase | | Reported method of purchase | | Reported delivery of purchase | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| Telephone | 85 | 13 | 77 | 12 | 3 | 1 | 3 | 1 | 27 | 11 | 23 | 10 | 55 | 26 | 51 | 24 |
| Telephone sometimes | 21 | 3 | 17 | 3 | 0 | 0 | 0 | 0 | 10 | 4 | 8 | 3 | 11 | 5 | 9 | 4 |
| Go to store | 478 | 73 | 67 | 10 | 178 | 86 | 3 | 1 | 172 | 74 | 26 | 11 | 128 | 61 | 38 | 18 |
| Fruit and vegetable wagon | 61 | 9 | 0 | 0 | 27 | 13 | 0 | 0 | 23 | 10 | 0 | 0 | 11 | 5 | 0 | 0 |
| No answer | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 5 | 2 | 0 | 0 |
| Number of interviews | 652 | | 161 | | 208 | | 6 | | 234 | | 57 | | 210 | | 98 | |

purchased. The purchases were usually "25 cents worth" or less. The actual quantity was seldom mentioned. It was found, however, from a special study, that 90 per cent of all price quotations were on the basis of 25 cents or less. This price was for quantities ranging from 1 to 6 pounds, usually 2 to 4 pounds. Therefore, whenever the

CONSUMERS' METHOD OF PURCHASE BY INCOME GROUP

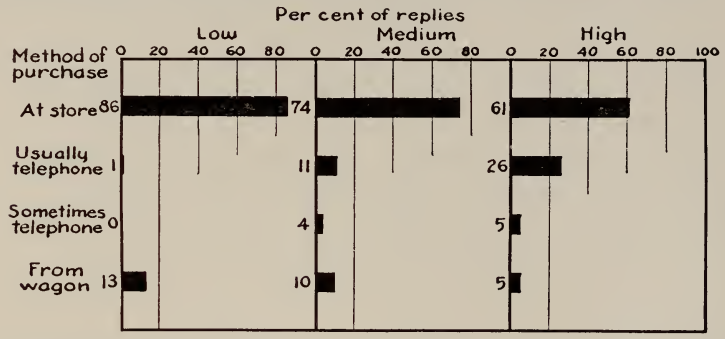

Per cent of replies
Low
Medium
High
Method of purchase
0 20 40 60 80 0 20 40 60 80 0 20 40 60 80 100
At store 86 74 61
Usually telephone 1 11 26
Sometimes telephone 0 4 5
From wagon 13 10 5

Fig. 6.—Most consumers purchase apples at the store, but those in the high income groups buy frequently by telephone. (Data from table 40.)

TABLE 41

Quantity of Apples per Purchase

| Quantity | Income groups | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | All | | Low | | Medium | | High | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| 1 to 5 pounds | 418 | 73 | 145 | 78 | 150 | 77 | 123 | 64 |
| 6 to 10 pounds | 85 | 15 | 25 | 13 | 19 | 10 | 41 | 21 |
| Box | 71 | 12 | 16 | 9 | 25 | 13 | 30 | 15 |
| Total replies | 574 | | 186 | | 194 | | 194 | |

consumer stated that his purchase amounted to a quantity worth 25 cents or less, it was assumed that he bought from 1 to 5 pounds. Likewise, whenever his purchase was from 25 cents to 50 cents worth, it was assumed that the quantity was 6 to 10 pounds. On the basis of these assumptions for the replies made in terms of price table 41 was constructed.

Here it will be seen that a quantity ranging between 1 and 5 pounds was the usual size of purchase. It is to be noted further that the larger quantities were among consumers with the higher incomes.

*Time of Day When Apples Are Eaten.*—An adequate analysis of the uses made of apples in the home requires far more detailed study than was made in this survey. The data here presented may be

TABLE 42

TIME OF DAY APPLES ARE EATEN, BY DISTRICTS

| Time of day apples are eaten | All California | | Northern California | | Southern California | |
|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent |
| | *1* | *2** | *3* | *4** | *5* | *6** |
| Morning | 77 | 11.8 | 42 | 12.0 | 35 | 11.6 |
| Noon | 45 | 6.9 | 25 | 7.1 | 20 | 6.6 |
| Night | 206 | 31.7 | 72 | 20.6 | 134 | 44.4 |
| At meals | 35 | 5.4 | 21 | 6.0 | 14 | 4.6 |
| Between meals | 15 | 2.3 | 13 | 3.7 | 2 | 0.7 |
| Any time | 279 | 42.8 | 178 | 50.8 | 101 | 33.5 |
| No answer | 60 | 9.2 | 29 | 8.3 | 31 | 10.3 |
| Number of interviews | 649 | | 350 | | 303 | |

*Columns 2, 4, and 6 will not total 100 because several mentioned more than one time of day.

TABLE 43

TIME OF DAY APPLES ARE EATEN, BY INCOME GROUPS

| Time of day apples are eaten | Income group | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | All classes | | Low | | Medium | | High | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| | *1* | *2** | *3* | *4** | *5* | *6** | *7* | *8** |
| Morning | 77 | 11.8 | 28 | 13.5 | 28 | 12.0 | 21 | 10.0 |
| Noon | 45 | 6.9 | 14 | 6.7 | 16 | 6.8 | 15 | 7.1 |
| Night | 206 | 31.7 | 55 | 26.4 | 69 | 29.4 | 82 | 39.1 |
| At meals | 35 | 5.4 | 1 | 0.5 | 17 | 7.3 | 17 | 8.1 |
| Between meals | 15 | 2.3 | 4 | 1.9 | 7 | 3.0 | 4 | 1.9 |
| Any time | 279 | 42.8 | 113 | 54.4 | 89 | 38.0 | 77 | 36.7 |
| No answer | 60 | 9.2 | 14 | 6.7 | 30 | 12.8 | 16 | 7.6 |
| Total number of interviews | 649 | | 208 | | 234 | | 210 | |

*Columns 2, 4, 6, and 8 will not total 100 because several mentioned more than one time of day.

suggestive for further studies. However, tables 42 and 43 show that regardless of income standing, approximately 12 per cent of the consumers used apples in the morning. It is of interest to note that southern California consumers mentioned using apples at night more often than those in the northern district. Again, apples were not

eaten at night as frequently by the lower income groups as by the higher income groups. Compared with 26 per cent who ate apples at night in the low income group and 39 per cent in the medium income group, there were nearly 40 per cent in the high income group.

*Uses Made of Apples.*—The most popular use for apples, irrespective of district or income class, was for eating out of hand (tables 44 and 45 and fig. 7). Consumers in the southern district reported eating relatively more apples in this way than those in the northern district and those in the low income group ate apples out of hand to a greater extent than those in other income groups. The difference between districts may be partially explained by the fact, as shown in tables 42 and 43, that more apples are eaten at night; and the difference between income groups by the fact that the low income group reported eating apples "any time" to a greater extent than other groups.

In order to summarize the data on the uses made of apples, weights were assigned to the importance of the use by giving first importance a weight of 4 points, second importance a weight of 3 points, third importance a weight of 2 points and fourth importance a weight of 1 point; then the weights were tabulated in table 45. Here it is again apparent that the most important use made of apples is for eating out of hand.

Use for sauce was next in importance. There was a tendency for those in the high income group and in the northern district to use apples for this purpose to a greater extent than those in other groups, but the difference was not marked. This variation may be partly accounted for by the fact that the groups which used apples to the greatest extent for sauce reported using apples at meals more often than did those in other groups. It is worthy of note that consumers were consistent in their answers to questions concerning apples. In table 31 it was shown that taste and cooking quality were the most desired characteristics. Here it is shown that eating out of hand and sauce are the most important use made of apples.

Third in "use" importance for almost all income groups and districts was baking. (See tables 44 and 45, and fig. 7.) Only one exception to this general statement was ascertained. The low income group in northern California reported using apples for pies to a slightly greater extent than for baking. However, the difference in the weighted relative importance is not marked (table 45).

## TABLE 44

### Uses Made of Apples in Order of Their Importance by Income Groups and Districts

| Use | Income | All California | | | | | | | | Northern California | | | | | | | | Southern California | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | First importance | | Second importance | | Third importance | | Fourth importance | | First importance | | Second importance | | Third importance | | Fourth importance | | First importance | | Second importance | | Third importance | | Fourth importance | |
| | | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| Eaten Out of hand | Low | 160 | 77.0 | 20 | 9.6 | 12 | 5.8 | 8 | 3.8 | 81 | 75.0 | 12 | 11.1 | 8 | 7.4 | 5 | 4.6 | 79 | 79.0 | 8 | 8.0 | 4 | 4.0 | 3 | 3.0 |
| | Medium | 133 | 58.0 | 24 | 10.4 | 20 | 8.7 | 17 | 7.4 | 67 | 51.9 | 12 | 9.3 | 14 | 10.8 | 9 | 7.0 | 66 | 64.0 | 12 | 12.0 | 6 | 6.0 | 8 | 8.0 |
| | High | 120 | 57.2 | 28 | 13.4 | 18 | 8.6 | 9 | 4.3 | 48 | 43.6 | 18 | 16.3 | 11 | 10.0 | 7 | 6.4 | 72 | 72.0 | 10 | 10.0 | 7 | 7.0 | 2 | 2.0 |
| | All | 413 | 63.5 | 72 | 11.1 | 50 | 7.7 | 34 | 5.2 | 196 | 56.5 | 42 | 12.1 | 33 | 9.5 | 21 | 6.1 | 217 | 71.8 | 30 | 9.9 | 17 | 5.6 | 13 | 4.3 |
| Sauce | Low | 34 | 16.3 | 89 | 42.7 | 44 | 21.1 | 6 | 2.9 | 19 | 17.6 | 58 | 53.6 | 11 | 10.2 | 4 | 3.7 | 15 | 15.0 | 31 | 31.0 | 33 | 33.0 | 2 | 2.0 |
| | Medium | 45 | 19.5 | 89 | 38.6 | 43 | 18.6 | 11 | 4.8 | 32 | 24.8 | 51 | 39.5 | 16 | 12.4 | 6 | 4.6 | 13 | 13.0 | 38 | 37.0 | 27 | 26.0 | 5 | 5.0 |
| | High | 61 | 29.0 | 71 | 33.8 | 43 | 20.5 | 11 | 5.2 | 40 | 36.3 | 35 | 31.8 | 12 | 10.9 | 10 | 9.1 | 21 | 21.0 | 36 | 36.0 | 31 | 31.0 | 1 | 1.0 |
| | All | 140 | 21.6 | 249 | 38.4 | 130 | 20.0 | 28 | 4.3 | 91 | 26.3 | 144 | 41.5 | 39 | 11.3 | 20 | 5.8 | 49 | 16.2 | 105 | 34.8 | 91 | 30.1 | 8 | 2.6 |
| Baking | Low | 6 | 2.9 | 43 | 20.6 | 56 | 26.9 | 34 | 16.3 | 4 | 3.7 | 9 | 8.3 | 31 | 28.6 | 20 | 18.5 | 2 | 2.0 | 34 | 34.0 | 25 | 25.0 | 14 | 14.0 |
| | Medium | 15 | 6.5 | 62 | 26.8 | 59 | 25.5 | 26 | 11.2 | 10 | 7.8 | 33 | 25.6 | 34 | 26.4 | 12 | 9.3 | 5 | 5.0 | 29 | 28.0 | 25 | 24.0 | 14 | 14.0 |
| | High | 16 | 7.6 | 60 | 28.6 | 49 | 23.4 | 25 | 11.9 | 11 | 10.0 | 28 | 25.4 | 27 | 24.5 | 14 | 12.7 | 5 | 5.0 | 32 | 32.0 | 22 | 22.0 | 11 | 11.0 |
| | All | 37 | 5.7 | 165 | 25.4 | 164 | 25.2 | 85 | 13.1 | 25 | 7.2 | 70 | 20.2 | 92 | 26.6 | 46 | 13.3 | 12 | 4.0 | 95 | 31.4 | 72 | 23.8 | 39 | 12.9 |
| Pie | Low | 8 | 3.8 | 25 | 12.0 | 43 | 20.6 | 51 | 24.5 | 4 | 3.7 | 11 | 10.3 | 30 | 27.8 | 21 | 19.4 | 4 | 4.0 | 14 | 14.0 | 13 | 13.0 | 30 | 30.0 |
| | Medium | 22 | 9.5 | 14 | 6.1 | 42 | 18.2 | 50 | 21.6 | 8 | 6.2 | 8 | 6.2 | 22 | 17.0 | 27 | 20.9 | 14 | 14.0 | 6 | 6.0 | 20 | 20.0 | 23 | 22.0 |
| | High | 8 | 3.8 | 21 | 10.0 | 42 | 20.0 | 37 | 17.6 | 7 | 6.4 | 15 | 13.6 | 26 | 23.6 | 14 | 12.7 | 1 | 1.0 | 6 | 6.0 | 16 | 16.0 | 23 | 23.0 |
| | All | 38 | 5.8 | 60 | 9.2 | 127 | 19.5 | 138 | 21.2 | 19 | 5.5 | 34 | 9.8 | 78 | 22.5 | 62 | 17.9 | 19 | 6.3 | 26 | 8.6 | 49 | 16.2 | 76 | 25.2 |
| Salad | Low | 0 | 0.0 | 12 | 5.8 | 9 | 4.3 | 20 | 9.6 | 0 | 0.0 | 11 | 10.2 | 7 | 6.5 | 15 | 13.9 | 0 | 0.0 | 1 | 1.0 | 2 | 2.0 | 5 | 5.0 |
| | Medium | 2 | 0.9 | 12 | 5.2 | 24 | 10.4 | 40 | 17.3 | 2 | 1.5 | 7 | 5.4 | 20 | 15.5 | 23 | 17.8 | 0 | 0.0 | 5 | 5.0 | 4 | 4.0 | 17 | 17.0 |
| | High | 3 | 1.4 | 15 | 7.2 | 30 | 14.3 | 68 | 32.4 | 3 | 2.7 | 9 | 8.2 | 22 | 20.0 | 28 | 25.4 | 0 | 0.0 | 6 | 6.0 | 8 | 8.0 | 40 | 40.0 |
| | All | 5 | 0.8 | 39 | 6.0 | 63 | 9.7 | 128 | 19.7 | 5 | 1.4 | 27 | 7.8 | 49 | 14.1 | 66 | 19.1 | 0 | 0.0 | 12 | 4.0 | 14 | 4.6 | 62 | 20.5 |
| Others | Low | 0 | 0.0 | 3 | 1.4 | 5 | 2.4 | 6 | 2.9 | 0 | 0.0 | 2 | 1.8 | 4 | 3.7 | 2 | 1.8 | 0 | 0.0 | 1 | 1.0 | 1 | 1.0 | 4 | 4.0 |
| | Medium | 0 | 0.0 | 7 | 3.0 | 4 | 1.7 | 5 | 2.1 | 0 | 0.0 | 6 | 4.6 | 3 | 2.3 | 5 | 3.9 | 0 | 0.0 | 1 | 1.0 | 1 | 1.0 | 0 | 0.0 |
| | High | 1 | 0.5 | 3 | 1.4 | 4 | 1.9 | 9 | 4.3 | 1 | 0.9 | 2 | 1.8 | 1 | 0.9 | 6 | 5.4 | 0 | 0.0 | 1 | 1.0 | 3 | 3.0 | 3 | 3.0 |
| | All | 1 | 0.2 | 13 | 2.0 | 13 | 2.0 | 20 | 3.1 | 1 | 0.3 | 10 | 2.9 | 8 | 2.3 | 13 | 3.8 | 0 | 0.0 | 3 | 1.0 | 5 | 1.6 | 7 | 2.3 |
| No answer | Low | 0 | 0.0 | 16 | 7.7 | 39 | 18.7 | 83 | 40.0 | 0 | 0.0 | 5 | 4.6 | 17 | 15.7 | 41 | 37.9 | 0 | 0.0 | 11 | 11.0 | 22 | 22.0 | 42 | 42.0 |
| | Medium | 14 | 6.1 | 23 | 10.0 | 39 | 16.9 | 82 | 35.0 | 10 | 7.8 | 12 | 9.3 | 20 | 15.5 | 47 | 36.4 | 4 | 4.0 | 11 | 11.0 | 19 | 19.0 | 35 | 34.0 |
| | High | 1 | 0.5 | 12 | 5.7 | 24 | 11.5 | 51 | 24.3 | 0 | 0.0 | 3 | 2.7 | 11 | 10.0 | 31 | 28.2 | 1 | 1.0 | 9 | 9.0 | 13 | 13.0 | 20 | 20.0 |
| | All | 15 | 2.3 | 51 | 7.8 | 102 | 15.4 | 216 | 33.2 | 10 | 2.9 | 20 | 5.8 | 48 | 13.9 | 119 | 34.4 | 5 | 1.6 | 31 | 10.3 | 54 | 17.8 | 97 | 32.0 |
| Total interviews | Low | 208 | | 208 | | 208 | | 208 | | 108 | | 108 | | 108 | | 108 | | 100 | | 100 | | 100 | | 100 | |
| | Medium | 231 | | 231 | | 231 | | 231 | | 129 | | 129 | | 129 | | 129 | | 102 | | 102 | | 102 | | 102 | |
| | High | 210 | | 210 | | 210 | | 210 | | 110 | | 110 | | 110 | | 110 | | 100 | | 100 | | 100 | | 100 | |
| | All | 649 | | 649 | | 649 | | 649 | | 347 | | 347 | | 347 | | 347 | | 302 | | 302 | | 302 | | 302 | |

*Others include "fried," "fritters," "dumplings," "jelly," and "juice."

## TABLE 45

### Weighted Relative Importance of Uses Made of Apples*

| Income group | All California | | | | | Northern California | | | | | Southern California | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eaten out of hand | Sauce | Baking | Pie | Salad | Eaten out of hand | Sauce | Baking | Pie | Salad | Eaten out of hand | Sauce | Baking | Pie | Salad |
| All | 308 | 246 | 163 | 111 | 60 | 285 | 258 | 156 | 114 | 76 | 332 | 232 | 171 | 109 | 42 |
| Low | 354 | 238 | 144 | 116 | 36 | 353 | 255 | 114 | 120 | 58 | 351 | 221 | 174 | 104 | 12 |
| Medium | 288 | 236 | 169 | 114 | 57 | 264 | 247 | 170 | 98 | 71 | 312 | 220 | 166 | 136 | 40 |
| High | 291 | 264 | 175 | 103 | 88 | 250 | 272 | 178 | 126 | 101 | 334 | 265 | 171 | 77 | 12 |

*Calculated from data in table 44 by assigning weights to the percentage figures under the headings "Importance." First importance was given a weight of 4; second importance a weight of 3, third importance 2, and fourth importance 1.

The use of apples for pies was more important than for salads in all income groups and districts. Their use for the latter was relatively unimportant. Here may be an opportunity for expanding the consumption of apples.

The data obtained in this study on the uses of apples are in close agreement with those reported in New York[27] study of consumers' uses of apples. There it was shown that 57.6 per cent of the apples consumed were eaten out of hand, 15.7 per cent used for sauce, 12.8 per cent for baking, 10.9 per cent for pies, and 3.0 per cent for salads.

RELATIVE IMPORTANCE OF USES MADE OF APPLES IN CALIFORNA

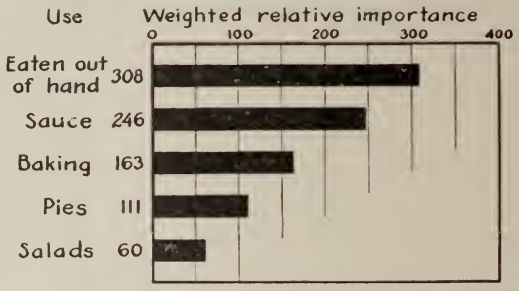



Fig. 7.—The most important uses of apples are eating out of hand, as sauce, and for baking. Apples for eating out of hand are more important in southern California than in northern California. (Data from table 45.)

## RETAILERS' OPERATIONS AND PRACTICES

Interviews with 104 retailers in California cities form the basis of the data presented in this part of the survey. Specific questions were asked of each retailer and the replies are summarized in the tables and figures which follow.

*Demand for Apples as Reported by the Retailer.*—Retailers reported that most consumers merely asked for apples suitable for cooking or eating purposes rather than by variety or by region of origin (table 46). However, in the case of varieties which have a long marketing season, such as the Jonathan, Winesap, Bellflower, and Newtown, a considerable number of consumers asked for these varieties when making their purchases.

*Retailers' Purchases.*—Most retailers bought their entire supplies of apples at the wholesale markets, but in Stockton and Sacramento several reported that they purchased from growers who delivered to their stores. Only one stated that he bought to a considerable extent from a wagon jobber. It is known that in many of the smaller towns, not covered in this survey, apples are purchased directly from growers as in Stockton and Sacramento.

[27] French, E. R. Consumer demand for apples in New York City. Bur. Agr. Econ. Typed report. p. 30. July, 1927.

TABLE 46

How Consumers Ask for Apples as Reported by Retailers in California

| Retailers' estimate | Merely for apples | | By variety | | By region of origin | |
|---|---|---|---|---|---|---|
| | Number of retailers | Per cent | Number of retailers | Per cent | Number of retailers | Per cent |
| "Most consumers" | 81 | 78 | 13 | 14 | 2 | 2 |
| "Many consumers" | 14 | 13 | 37 | 40 | 6 | 6 |
| "Few consumers" | 9 | 9 | 32 | 35 | 36 | 39 |
| None | 0 | 0 | 10 | 11 | 49 | 53 |
| Total replies | 104 | 100 | 92 | 100 | 93 | 100 |

In the Los Angeles market there are several jobbers who specialize in supplying the retail trade in nearby cities. They take orders, buy in the wholesale market, and truck the produce to the retailer. These jobbers purchase their supplies between 8:00 and 9:00 p.m. and deliver to the retailer in the early morning.

Approximately one-third of the retailers reported that they bought apples in lots of from 1 to 5 boxes (table 47), another third purchased from 6 to 10 boxes at one time, and the remainder took from 11 to 100 boxes. In the San Francisco market the usual size of purchase was from 6 to 10 boxes, while in the Los Angeles market 1 to 5 boxes was the prevailing quantity. Only a few of the larger retailers bought as many as 50 to 100 boxes at a time; such purchasers could obtain their supplies from wholesalers at the same price as jobbers. Retail stores which were operated in chain systems reported that their management frequently bought in carload lots.

*Size of Sale.*—"Twenty-five cents worth" was the most common size of sale at retail in California markets. In San Francisco, however, eating apples were sold almost exclusively by the dozen. In the East Bay region the better grades of eating apples were sold by the dozen while poorer grades of eating apples and cooking apples were sold by the pound.

When sold by the pound, the size of sale ranged between 3 and 6 pounds per sale, depending upon the quality of the apples and whether a "special" was carried in apples on a particular day. Likewise, the size of sale varied with the general price level. Even when sold by the pound, the size of sale centered around the 25-cent quotation. (See discussion under "Retail Prices of Apples," pages 146–147.)

TABLE 47

QUANTITY OF APPLES PURCHASED AT ONE TIME BY RETAILERS IN CALIFORNIA

| Area | 1 to 5 boxes | | 6 to 10 boxes | | 11 to 20 boxes | | 21 to 50 boxes | | More than 50 boxes | | Total replies | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number reporting | Per cent | Number reporting | Per cent | Number reporting | Per cent | Number reporting | Per cent | Number reporting | Per cent | Number reporting | Per cent |
| All California | 37 | 37 | 35 | 35 | 16 | 16 | 7 | 7 | 6 | 6 | 101 | 100 |
| San Francisco | 6 | 30 | 9 | 45 | 3 | 15 | 2 | 10 | 0 | ..... | 20 | 100 |
| Los Angeles | 28 | 58 | 11 | 23 | 4 | 8 | 2 | 4 | 3 | 6 | 48 | 100 |
| Alameda, Berkeley, and Oakland | 1 | 5 | 13 | 59 | 6 | 27 | 1 | 5 | 1 | 5 | 22 | 100 |
| Stockton and Sacramento | 2 | 18 | 2 | 18 | 3 | 27 | 2 | 18 | 2 | 18 | 11 | 100 |

TABLE 48

Gross Margin of Profit Considered Necessary In Handling Apples by Retailers in California

| Area | Profit considered necessary | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 15 to 20 per cent | | 21 to 25 per cent | | 26 to 30 per cent | | 31 to 35 per cent | | 36 to 40 per cent | | 41 to 45 per cent | | Total replies | |
| | Retailers reporting each percentage | | | | | | | | | | | | | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 9 | 9 | 30 | 29 | 35 | 34 | 20 | 19 | 7 | 7 | 2 | 2 | 103 | 100 |
| San Francisco | 1 | 5 | 6 | 30 | 12 | 60 | 1 | 5 | 0 | 0 | 0 | 0 | 20 | 100 |
| Los Angeles | 3 | 6 | 0 | 0 | 19 | 39 | 18 | 38 | 6 | 13 | 2 | 4 | 48 | 100 |
| Alameda, Berkeley, and Oakland | 2 | 9 | 15 | 68 | 4 | 18 | 1 | 5 | 0 | 0 | 0 | 0 | 22 | 100 |
| Stockton and Sacramento | 3 | 23 | 9 | 69 | 0 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 13 | 100 |

## TABLE 49

AMOUNT OF APPLES WHICH SPOIL, AS REPORTED BY RETAILERS IN CALIFORNIA

| Type of apples | Amount of spoilage | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Less than 10 per cent | | 10 per cent | | 15 per cent | | 20 per cent | | 25 per cent | | More than 25 per cent | | Total replies | |
| | Retailers reporting each amount | | | | | | | | | | | | | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| Early apples | 37 | 47 | 32 | 41 | 9 | 11 | 0 | 0 | 1 | 1 | 0 | 0 | 79 | 100 |
| Late apples | 17 | 19 | 43 | 48 | 22 | 24 | 6 | 7 | 1 | 1 | 1 | 1 | 90 | 100 |

Retailers who reported selling by the box were few. The box was sold only to a limited extent near the holidays. Most retailers stated that they sold large quantities cheaper than small quantities. However, this did not appear to encourage buying because few consumers have satisfactory storage facilities to hold large quantities.

*Gross Margin of Profit Considered Necessary in Handling Apples.*—Between 20 and 35 per cent of sale prices was the gross margin considered necessary by most retailers for handling apples. (See table 48.) In Los Angeles the reported margin tended to be some-

TABLE 50

Retailers' Dealings in Processed Apples

| Area | Dried apples | | | | | | Canned apples | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Handling dried apples | | Not handling dried apples | | Total replies | | Handling canned apples | | Not handling canned apples | | Total replies | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 10 | 10 | 78 | 77 | 88 | 87 | 13 | 13 | 68 | 67 | 101 | 100 |
| San Francisco | 1 | 4 | 23 | 96 | 24 | 100 | 0 | 0 | 25 | 100 | 25 | 100 |
| Los Angeles | 4 | 13 | 27 | 87 | 31 | 100 | 6 | 14 | 36 | 86 | 42 | 100 |
| Alameda, Berkeley, and Oakland | 1 | 5 | 19 | 95 | 20 | 100 | 1 | 5 | 20 | 95 | 21 | 100 |
| Stockton and Sacramento | 4 | 31 | 9 | 69 | 13 | 100 | 6 | 46 | 7 | 54 | 13 | 100 |

what higher than in other California markets, several small dealers stating that between 35 and 45 per cent was the necessary margin.

All retailers expressed the opinion that handling apples was profitable. Some qualified their opinions by excepting the handling of early local apples and those that had been held in storage for a long time.

*Amount of Apples Which Spoil and Causes of Spoilage.*—The quantity of apples lost through spoiling was not considered excessive by retailers. Only 11 per cent of the dealers reported losing more than 10 per cent of the early apples they handled while 47 per cent reported less than 10 per cent loss. With late apples, losses ran somewhat higher. Between 10 and 15 per cent was the usual amount of spoilage reported. The heaviest losses were with apples that had been stored for a long period. (See table 49.)

"Storage breakdown" and decay were reported as the principal causes of loss in late apples, while bruising and shriveling were of most importance with early apples. Shriveling was reported most

frequently in southern California on early immature apples, and bitter-pit in northern markets.

*Dealings in Processed Apples.*—Only 10 per cent of the retailers handled dried apples (table 50). These were located in trade territory comprised of low income groups. There was a tendency as well for dealers located in smaller cities to handle dried apples to a greater extent than did those in the larger cities. Canned apples were carried by 13 per cent of the dealers. Those dealers who catered to a restaurant trade handled the gallon can. In the smaller cities canned apples were on the shelves more frequently than in the larger cities, and as in the case of dried apples, they were carried by the dealers in low income districts.

Apple butter was sold by a number of retailers. These reported that the No. 1 and No. 2 cans were the best sellers.

## WHOLESALERS' AND JOBBERS' OPERATIONS AND PRACTICES

*Relation of Apples to Other Products Handled by Wholesalers and Jobbers.*—For those dealers who handled apples in California markets the apple business was a substantial part. In southern California there was a tendency for those who dealt in apples to make it a bigger part of their business than the northern California dealers.

TABLE 51

PER CENT OF WHOLESALER'S AND JOBBER'S BUSINESS IN APPLES, FRUITS AS A WHOLE, AND VEGETABLES

| Markets | Per cent in apples | Per cent in fruits as a whole | Per cent in vegetables |
|---|---|---|---|
| Northern California | 20 to 40, mostly 25 | 25 to 75, mostly 50 | 25 to 75, mostly 50. |
| Southern California | 10 to 95, mostly 30 | 10 to 100, mostly 50 | 10 to 90, mostly 50. |
| All California | 10 to 95, mostly 25 to 30 | 10 to 100, mostly 50 | 10 to 90, mostly 50. |
| New York | 7 to 75, mostly 20 to 50 | 20 to 100, mostly 50 to 100 | 0 to 75, mostly under 50. |

The usual division of business between fruits and vegetables was about half and half. In New York, the importance of apples as compared with other products handled varied from only 7 per cent to as high as 75 per cent. The majority reported their apple business constituted from 20 to 50 per cent. Most dealers interviewed handled a greater volume of fruits than vegetables, seven out of thirty-three handling no vegetables at all. (See table 51.) It is well known, however, that some dealers handle vegetables exclusively. These were not interviewed, hence the data on proportion of business in fruits and vegetables apply only to those engaged in handling fruits only or fruits and vegetables in combination.

*Quantity of Apples Handled from Various Producing Sections.*— The quantity of apples handled by dealers from the principal producing sections was reported to vary from year to year. It also varied greatly between dealers. Southern California dealers handled a much larger quantity of apples from Watsonville than northern California dealers (table 52). This was due to the fact that Los Angeles was a good market for Bellflowers while the San Francisco market was not greatly interested in them. Furthermore, the Los Angeles market used larger quantities of the Watsonville Newtowns than the San Francisco market. It was also noted that southern California markets handled more apples from other California producing sections than did the northern California markets. Again, southern California markets used apples from Idaho and Utah to a much greater extent than the northern California markets.

The matter of freight rates evidently plays an important part in the sources from which the northern and southern California markets secure their apples. According to the Bureau of Railway Economics[28] the following rates obtained:

| *From* | *To* Los Angeles *Cents per 100 lbs.* | *To* San Francisco *Cents per 100 lbs.* |
|---|---|---|
| Milton, Oregon | 100½ | 65 |
| Provo, Utah | 79 | .... |
| Underwood, Washington | .... | 52½ |
| Wenatchee, Washington | 106 | 79 |
| Yakima, Washington | 106 | .... |
| Fruitland, Idaho | 98 | 98 |
| Twin Falls, Idaho | 95 | .... |
| Watsonville, California | 35½ | 16 |

Here it will be noted that the southern California markets are served most advantageously with late apples from Watsonville, Utah, and Idaho. On the other hand, it will be noted that the Northwest has an advantage in freight rates into San Francisco over the Utah and Idaho shipping points.

The importance of the freight rate structure in determining the receipts from Utah was brought out by Thomas and Cardon[29] in their study of the apple industry of Utah. These workers quoting Homer A. Harris, then market reporter for the United States Bureau of Agricultural Economics, state: "Receipts of Jonathans from Utah are

[28] Commodity prices in their relation to transportation costs. Bur. of Railway Economics. Bul. 34:28. Washington, D. C. Feb. 1929.

[29] Thomas, Preston W., and P. V. Cardon. An economic study of the apple industry of Utah. Utah Agr. Exp. Sta. Bul. 208:38. 1928.

heavy on account of favorable freight rates from that state as compared with Idaho, Oregon, or Washington.''

The quantity of apples handled by New York dealers and the few who were interviewed in other eastern markets is exceedingly variable. Some dealers handled only a small part of a car while others handled up to 50 cars of early apples and several hundred or even a thousand cars of late apples. The quantity of California Gravensteins handled constitutes a very small percentage of all apples purchased. Dealers buying only a car or less of Gravensteins may handle several hundred cars of Northwest apples. Some of these, particularly in Philadelphia and Boston, handled several hundred cars of barreled apples, mostly from Virginia.

TABLE 52

QUANTITY OF APPLES HANDLED FROM VARIOUS PRODUCING SECTIONS BY WHOLESALERS AND JOBBERS

| District of origin | Northern California markets | Southern California markets | New York markets | All eastern markets |
|---|---|---|---|---|
| | Number of carloads handled by wholesalers and jobbers | | | |
| Sebastopol, California | 1 to 50, mostly 5 | 2 to 50, mostly 10 | ¼ to 50, mostly 1-5 | ¼ to 50, mostly 1-5 |
| Watsonville, California | 3 to 200, mostly 25 | 10 to 600, mostly 75 | | |
| Other California | 2 to 40, mostly 5 to 10 | 3 to 150, mostly 15 | | |
| Idaho | 1 to 5, mostly 3 | 3 to 150, mostly 10 | | |
| Washington | 3 to 20, mostly 10 | 5 to 125, mostly 25 | 5 to 1,200 | 5 to 1,200 |
| Oregon | 1 to 25, mostly 10 | 4 to 25, mostly 10 | | |
| Utah | (Only one dealer) 15 to 25 | 4 to 25, mostly 10 | | |
| Other | 0 | 0 | 2 to 1,000 | 2 to 1,000 |
| Total | 5 to 300, mostly 100 | 50 to 825, mostly 150 | 5 to 2,200 | 5 to 2,200 |

*Method of Purchase.*—The diagram on the cover page shows that wholesalers and jobbers have an opportunity to make their purchases from or through various agencies. Southern California dealers reported buying a larger portion of their apples through brokers than did northern California dealers. This applied particularly to the purchase of California apples. Northern California markets are located near the two principal producing sections; consequently contacts with shippers and growers are more easily made. Again, considerable quantities of apples were trucked to the northern California markets from the producing sections.

The purchase of apples from growers or country packers was confined largely to state shipments. In all California markets, most of the apples coming from points out-of-state were purchased through

brokers. Some of the wholesalers, however, owned or had interests in orchards both in and outside of the state and obtained their supplies in this manner. (See table 53 and fig. 8.) Some dealers who do strictly a jobbing business purchased their supplies from wholesalers. Occasionally, a wholesaler bought from another wholesaler in the event he wanted to fill a special order.

Most eastern wholesalers and jobbers reported buying California apples at auction. It is estimated that about 90 per cent of all western apples sold at eastern markets move through the auctions. A few

WHOLESALERS' AND JOBBERS' OPERATIONS IN CALIFORNIA MARKETS

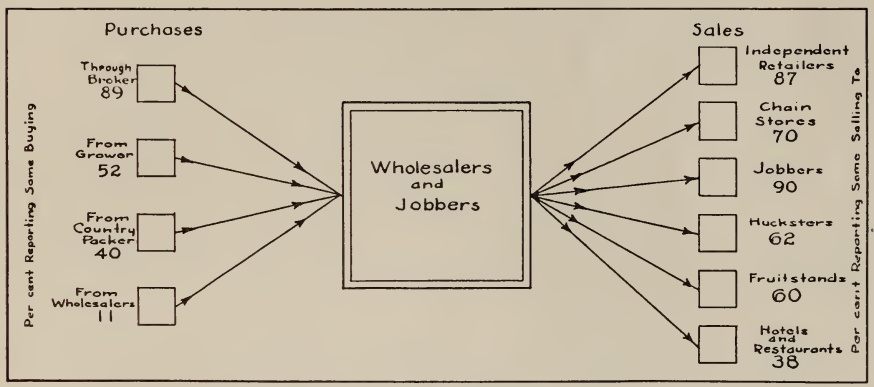



Fig. 8.—California wholesalers and jobbers most frequently reported either that they purchased through brokers or directly from growers. Most of them reported sales to jobbers, to independent retailers, to chain stores, and to hucksters. (Data from tables 53 and 58.)

dealers reported buying at private sale through brokers although some of the larger firms made contracts with large growers and with packers. Time did not permit obtaining data on this point in markets other than New York, but several large dealers interviewed in Philadelphia and Boston had representatives in the field making contracts with growers in the nearby states. It appears, therefore, that a considerable percentage of the eastern apple crop is purchased from the grower or packer.

Some of the wholesale houses did some of their own packing at country points. However, this is not the usual practice.

*Size of Purchase.*—The usual size of purchase reported by dealers in California was the carload. Those doing a jobbing business only, bought from 25 to 100 boxes at a time, usually 100 boxes. On trucked-in lots the size of purchase varied with the capacity of the truck.

TABLE 53

BUYING PRACTICES AND OPERATIONS REPORTED BY WHOLESALERS*

| Market | Total replies | Method of buying† | | | | | | | | | | Packing | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Through brokers | | At auction | | From wholesalers | | From growers | | From country packers | | Packing own apples | | Not packing own apples | |
| | | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 46 | 41 | 89 | 0 | 0 | 5 | 11 | 24 | 52 | 18 | 40 | 6 | 13 | 40 | 87 |
| Northern California | 21 | 17 | 81 | 0 | 0 | 4 | 19 | 12 | 57 | 10 | 48 | 6 | 29 | 15 | 71 |
| Southern California | 25 | 24 | 96 | 0 | 0 | 1 | 4 | 12 | 48 | 8 | 32 | 0 | 0 | 36 | 100 |
| New York | 33 | 7 | 21 | 25 | 76 | 1 | 3 | 6 | 18 | 4 | 12 | 7 | 54 | 6 | 46 |

*Small jobbers not reporting.
†Many wholesalers bought by more than one method.

TABLE 54

Portion of Carload of Apples Bought by Each Dealer at Auction in New York City, August 26, 1929*

| Dealer No. | Number of boxes purchased | Per cent of carload |
|---|---|---|
| 1 | 251 | 33.3 |
| 2 | 60 | 8.0 |
| 3 | 60 | 8.0 |
| 4 | 57 | 7.5 |
| 5 | 51 | 7.0 |
| 6 | 40 | 5.3 |
| 7 | 37 | 5.0 |
| 8 | 33 | 4.3 |
| 9 | 28 | 4.0 |
| 10 | 26 | 3.5 |
| 11 | 24 | 3.2 |
| 12 | 20 | 2.7 |
| 13 | 20 | 2.7 |
| 14 | 20 | 2.7 |
| 15 | 12 | 1.6 |
| 16 | 11 | 1.5 |
| 17 | 5 | 0.7 |
| Total | 755 | 100.0 |

*From Records of Brown and Seccomb Auction Company, New York City on P. F. E. car No. 26828.

PORTIONS OF CAR P. F. E. 26828 BOUGHT BY EACH DEALER AT AUCTION AUGUST 26, 1929, NEW YORK

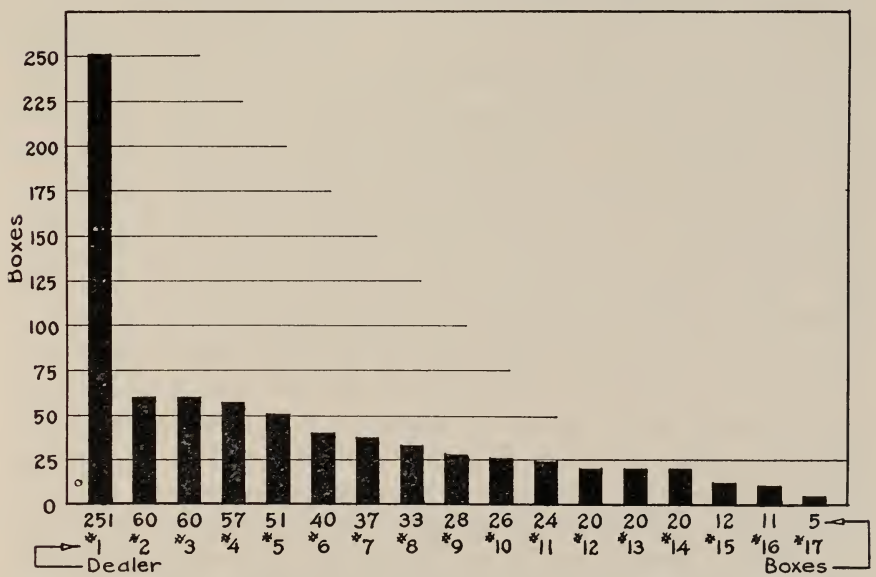



Fig. 9.—A car of apples is split up among a number of dealers, the majority of whom buy less than 50 boxes each. (Data from table 54.)

The majority of purchases by the larger New York dealers were either 100 box lots or carloads, the former applying more to earlier varieties and the latter to the fall and winter sorts. Some buyers speculated and their purchases on a given day ranged from only a few boxes to 15,000 boxes. Others stated that the size of their purchase varied according to the price.

Auction sale records during August show that, aside from a few large buyers who may purchase several hundred boxes at once, most buyers purchased from 20 to 60 boxes of Gravensteins at a time (table 54 and fig. 9). One buyer may take several lots of 20 boxes each. (Buyers wishing less than 20 boxes can obtain them at the auction only by purchasing broken lots.)

TABLE 55

TERMS OF PURCHASE REPORTED BY WHOLESALERS AND JOBBERS

| Markets | Number reporting cash | Number reporting "usual terms" | Reporting credit | |
|---|---|---|---|---|
| | | | Number | Time |
| All California | 43 | 4 | 10 | 7 to 30 days. |
| Northern California | 19 | 3 | 4 | 7 to 30 days. |
| Southern California | 24 | 1 | 6 | 10 days. |
| New York | 5 | 2 | 6 | 10 to 60 days. |

*Terms of Purchase.*—The terms of purchase reported by dealers in California was usually cash (table 55). Several reported payment in 7 to 30 days. A few reported that the terms of purchase were "usual terms" which meant purchase on an f.o.b. basis, subject to inspection upon arrival. In the majority of cases on carlot purchases, dealers reported payment of sight draft attached to bill of lading.

Auction terms in the East are 10 days, and this is the way in which the majority of purchases are made. Small jobbers buying from larger dealers are usually given a week's credit. A few can buy only for cash. Larger firms buying at country points usually purchased on a cash f.o.b. basis with sight draft attached to bill of lading.

*Wholesalers' Relations With Country Packers.*—Contracting with the country packer is not a general practice on the part of California wholesalers. Only 11 out of 46 interviewed reported that they made contracts. The usual practice was to purchase supplies near the time they are used. In the case of storage operations, however, purchases were made in advance and here the contract was more frequently employed.

Few dealers in New York reported contracting with country packers.

The practice of making advances to country packers was more common among dealers in northern California than in southern California. Yet, even in northern California less than half the dealers interviewed reported making advances. It was evident, however, that dealers were reticent about giving information with reference to financing, and many answered in an evasive manner. It is quite likely, therefore, that a larger number make advances than the direct replies indicate. This was indicated by several who said that as a practice they did not make advances but occasionally did make advances in special circumstances.

Few data were obtained in the eastern markets on the practice of financing country shippers, but two-thirds of those interviewed stated they did not make advances to packers. Those dealers who reported making advances to country packers usually stated that they made advances every year.

The usual practice in making advances to country packers was to make them just prior to harvest, although some reported making advances two or three months prior to it. The extent of advances to country packers varied from year to year and varied greatly as between dealers. The usual advance was, however, packing costs up to 25 per cent of the market price of the commodity. Two dealers reported making advances up to 50 and 75 per cent of the value of the product. (See table 56.)

The advantage of making advances to country packers, as given by wholesaler dealers in California markets, was to assure the business. Those who made advances reported no disadvantages. Some stated that the practice was merely one of accommodation.

Two dealers in New York reported the advantages as furnishing them more business while a third stated that it gave him the apples on track or in storage and he could sell when the market was up. The disadvantages stated were: extra bookkeeping, trouble of collecting interest and dissatisfaction of the grower with sales in case of a market decline.

*Wholesalers' Charges and Margins.*—Many dealers reported that they did not handle apples on a commission basis. Those who did, reported that their commission charges were either 10 or 15 per cent. Fifteen per cent was the usual charge in northern California markets, while in southern California markets 10 and 15 per cent charges were reported the same number of times. Some dealers reported that the

TABLE 56

WHOLESALERS AND JOBBERS MAKING CONTRACT WITH AND ADVANCES TO COUNTRY PACKERS

| Markets | Contracts | | | | Advances | | | | Frequency of advances | | | | Extent of advances |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Contracting with country packer | | Not contracting with country packer | | Making advances to country packer | | Not making advances | | Making advances every year | | Not making advances every year | | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | |
| All California | 11 | 24 | 35 | 76 | 14 | 30 | 32 | 70 | 9 | 75 | 3 | 25 | Packing costs to 50 per cent of market price. |
| Northern California | 9 | 43 | 12 | 57 | 9 | 43 | 12 | 57 | 5 | 71 | 2 | 29 | Packing costs to 75 per cent of market price. |
| Southern California | 2 | 8 | 23 | 92 | 5 | 20 | 20 | 80 | 4 | 80 | 1 | 20 | Packing costs to 75 per cent of market price. |
| New York | 2 | 11 | 16 | 89 | 3 | 30 | 7 | 70 | 2 | 67 | 1 | 33 | Up to 15 per cent of market price. |

## TABLE 57

### Wholesalers' and Jobbers' Charges and Margins

| Markets | Commission charges, per cent | Expected margins when not sold on commission | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10 to 15 per cent | | 20 to 25 per cent | | 10 to 15 cents a box | | 20 to 25 cents a box | | 30 to 50 cents a box | | Above 50 cents a box | |
| | | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 10 to 15, mostly 15 | 21 | 47 | 5 | 11 | 5 | 11 | 14 | 31 | 0 | 0 | 0 | 0 |
| Northern California | 10 to 15, mostly 15 | 4 | 20 | 3 | 15 | 5 | 25 | 8 | 40 | 0 | 0 | 0 | 0 |
| Southern California | 10 to 15, evenly divided | 17 | 68 | 2 | 8 | 0 | 0 | 6 | 24 | 0 | 0 | 0 | 0 |
| New York | 7 to 12½, mostly 7 to 10 | 1 | 4 | 0 | 0 | 0 | 0 | 11 | 48 | 8 | 35 | 3 | 13 |

commission charge varied with the quantity, smaller lots carrying the higher rate. Seven to 10 per cent were the usual charges of New York dealers. The New York commissions were based upon delivered sales, hence the actual commission received was as large as that received by California dealers. Some dealers charged 7 per cent on large lots and 10 per cent on small lots.

On goods not sold on commission California dealers reported an expected margin ranging from 10 to 25 per cent, the usual margin being 15 per cent. Several reported on a per-box basis, the expected margin in this case ranging from 10 to 25 cents a box, the usual reply being 25 cents a box. (See table 57.)

The margin of profit considered necessary by New York dealers varied with the class of trade to which they catered. After paying cartage, which they figure at 10 or 11 cents, they hoped to make 15 to 20 cents a box as a minimum. Most dealers catering to a moderate-priced trade expected to make 25 cents. Dealers catering to a higher-class trade mark up the boxes from 35 to 75 cents. Those having the higher mark-up usually go over the fruit and see that every specimen is in perfect shape before it leaves their store. A large share of this fruit is sold through the Gansevoort jobbing market to steamship, restaurant, and hotel companies.

*Sales Outlets.*—California wholesale apple dealers had a variety of outlets. The tabulated results (table 58) show the number of dealers who reported sales to the various classes of trade. Here it is apparent that aside from hotels and restaurants the wholesale trade sold, in general, to all classes listed in the right-hand portion of the chart on the cover page. Southern California dealers more often indicated sales to jobbers than did the northern California dealers, probably because a larger number were doing a strictly wholesale business than was the case in northern California. Another point of interest is that a much smaller number reported selling to chain stores in the southern California markets.

Dealers, as a whole, hesitated about giving definite percentages on sales. Those who did indicated that the bulk of their trade was with retail stores. It is worthy of note that hucksters furnished a considerable outlet for jobbers.

The outlet for fruit sales for New York dealers was even more varied than with the California dealers. Washington Street dealers had a rather general class of trade but sell largely to jobbers, independent retailers, a few hotels, and chain stores. The dealers on the Gansevoort market, because of its location relatively near to the piers,

TABLE 58

Sales Outlets for Wholesalers and Jobbers

| Markets | Total replies | Hotels and restaurants | | Hucksters | | Fruit stands | | Chain stores | | Independent retailers | | Jobbers | | Others | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| | *1* | *2* | *3** | *4* | *5** | *6* | *7** | *8* | *9** | *10* | *11** | *12* | *13** | *14* | *15** |
| All California | 45 | 17 | 38 | 28 | 62 | 27 | 60 | 31 | 69 | 39 | 87 | 40 | 89 | 0 | 0 |
| Northern California | 21 | 8 | 38 | 13 | 62 | 9 | 43 | 18 | 86 | 18 | 80 | 16 | 76 | 0 | 0 |
| Southern California | 24 | 9 | 38 | 15 | 62 | 18 | 75 | 13 | 54 | 21 | 87 | 24 | 100 | 0 | 0 |
| New York | 35 | 6 | 17 | 8 | 23 | 13 | 37 | 7 | 20 | 15 | 43 | 13 | 37 | 8 | 23 |

*Figures in columns 3, 5, 7, 9, 11, 13, and 15 will not total 100 because many reported selling to more than one factor.

sold largely to ship lines, export institutions, and restaurants. The Harlem dealers serving upper Manhattan had a general trade to retailers, hucksters, and fruit stands. The dealers on the Wallabout market in Brooklyn distributed relatively large quantities of fruit to almost all classes except ships and export companies. The Attorney Street market on the lower east side of Manhattan served hucksters and push carts primarily.

*Terms of Sale.*—Terms of sale in most California markets were usually cash or cash weekly. In the northern California markets terms were frequently twice a month or what the trade termed "steamer days." In 1927, W. L. Jackson estimated that between 20 and 25 per cent of the business was done on a cash basis.[30] In southern California 10 days' credit was often extended to purchasers.

Cash sales and credit of a week or 10 days were the most common terms of sale in New York. Buyers with good credit are given 30 days and in a few instances longer. Auction terms are 10 days.

*Discounts.*—Wholesalers in California generally made discounts on quantity sales. In southern California markets, jobbers are given a discount in case they purchase a full line from the wholesaler but are not given a discount above that given to other purchasers on quantity sales if they only purchase apples. In some cases jobbers reported handling on a smaller margin in their dealings with other jobbers. In northern California markets most wholesalers reported giving a discount to jobbers not given to other purchasers, but jobbers did not make a practice of giving a discount to other jobbers because this business was not large in volume.

Most wholesalers in New York give some discount for quantity sales and also to jobbers. In one instance merely a 2 per cent brokerage charge was made to jobbers.

*Extent of Market.*—Northern California dealers reported a market radius of approximately 75 miles while southern California dealers reported a market radius of from 50 to over 200 miles. As a whole southern California dealers served a wider territory domestically. However, several northern California dealers reported exporting to a considerable extent. The San Francisco market is located nearer the producing sections, hence exports are made through this market rather than through the Los Angeles market. The freight rate from Watsonville to Los Angeles is 35½ cents per hundred pounds, while from Watsonville to San Francisco it is only 16 cents per hundred pounds.

[30] Jackson, W. L. The San Francisco wholesale and produce market. U. S. Dept. Agr. Bur. Agr. Econ. Unpublished report, San Francisco Office. 1927.

It is difficult to summarize the extent of the market of New York dealers. Some supply an area of only 8 to 10 blocks; others supply Manhattan and Long Island; some ship to out-of-town customers for 100 miles; and still others supply ship and export trade. Grouping the dealers under four general heads, we find nine supplying a local or nearby trade, fifteen supplying the different parts of Greater New York (the distance up to 40–50 miles), two shipping 50 to 100 miles, and eight supplying export trade.

Only general information as to the extent of the general market was obtained in Chicago, Cleveland, Philadelphia, and Boston. Generally speaking, Chicago is a distribution center. Cleveland is largely a local market supplying fruit in a semicircle south to a distance of 60–100 miles. Philadelphia ships apples as far west as central Pennsylvania and east to the coast. Boston supplies most of New England and ships some apples to Nova Scotia.

*The Factor of Trucked-in Fruits.*—Trucking of apples to California markets is an important means of transportation. In the northern California markets only 2 of 22 dealers interviewed reported that shipments were received by rail only. Some dealers reported that from 50 to 80 per cent of the apples they handled were hauled by truck. On the other hand, those handling a large quantity of Northwest apples reported that only a small percentage of the apples they handled were received by truck.

Southern California markets received all local apples by truck, other apples being transported mostly by rail. It is interesting to note, however, that apples were trucked in from Utah.

Arrivals by rail and truck in the Los Angeles market in July and August, 1929, calculated in carloads, were approximately: 48 carloads by rail and 14 carloads by truck during July; 127 carloads by rail and 16 carloads by truck in August.[31]

Answers to questions concerning trucked-in fruits were not obtained from many dealers in the eastern markets. Trucking, however, is becoming more important each year as a means of transporting fresh fruits and vegetables from nearby sections. Biddle[32] reports the carload arrivals in New York for 1928 to be 7,953 by rail and 1,107 by truck for the period from July to December. Monthly reports for July and August, 1929, showing the origin of rail and motor truck shipments are presented in table 59.

---

[31] Daily Market News Service Reports. U. S. Dept. Agr. Bur. Agr. Econ. Los Angeles, Calif. 1929.

[32] Biddle, E. R. Annual summary of carlot arrivals of fruits and vegetables for New York, 1928. (mimeo.) U. S. Dept. Agr. Bur. Agr. Econ. 1929.

The data in table 59 show that truck shipments from New Jersey to the New York market have virtually eliminated rail shipments. The states of Delaware, Maryland, and New York also employ truck transportation to a large extent.

TABLE 59

CARLOAD RECEIPTS OF APPLES IN NEW YORK DURING JULY AND AUGUST, 1929*

| State of origin | Carloads received by rail | | Carloads received by truck | |
|---|---|---|---|---|
| | July | August | July | August |
| California | 2 | 121 | 0 | 0 |
| Delaware | 6 | 5 | 47 | 14 |
| Maryland | 3 | 16 | 15 | 5 |
| New Jersey | 4 | 2 | 239 | 257 |
| New York | 28 | 80 | 4 | 38 |
| North Carolina | 0 | 2 | 0 | 0 |
| Pennsylvania | 0 | 1 | 0 | 1 |
| Virginia | 9 | 28 | 0 | 0 |
| Washington | 41 | 0 | 0 | 0 |
| West Virginia | 1 | 51 | 0 | 0 |

*From Daily Market News Service Reports, U. S. Dept. Agr. Bur. Agr. Econ. New York, 1929.

TABLE 60

CARLOAD RECEIPTS OF APPLES IN BOSTON, JANUARY TO JULY, 1929*

| Month | Carloads received by rail | Carloads received by truck |
|---|---|---|
| January | 132 | 73 |
| February | 126 | 59 |
| March | 149 | 91 |
| April | 88 | 166 |
| May | 64 | 122 |
| June | 44 | 44 |
| July | 158 | 188 |

*Monthly report of carlot receipts. Market News Service Reports, U. S. Dept. Agr. Bur. Agr. Econ Boston, 1929.

No definite data could be obtained on actual quantity of apples received in Philadelphia by truck. It can be stated without questions, however, that during August the great bulk of the apples were trucked in from New Jersey and Delaware.

Table 60 shows the relative importance of rail and truck shipments of apples on the Boston market. Most of the apples received by truck originated in Massachusetts or New Hampshire and the Boston market was well supplied with local stock in August.

The Cleveland and Chicago markets also receive considerable quantities by truck. One of the best-posted men in Cleveland estimated that probably 25 per cent of the early apples arrived by truck but no figures could be obtained. On the Chicago market, some of the fruit from Illinois, Michigan, and Wisconsin is doubtless trucked in but no data were available.

*Storage Operations With Gravensteins.*—Storage of Gravensteins by the wholesale trade was seldom practiced in California. Only 8 out of 40 dealers interviewed stated that they had stored Gravensteins (table 61). Gravensteins in the eastern markets are usually sold as received although about one-third of the wholesalers and jobbers reported storing in a limited way and for short periods.

Those dealers who had stored Gravensteins held them for only a short period. Three to four weeks was the usual length of the storage period, although one dealer reported carrying one car for three months. The reason given for the short storage period was to avoid competition with the Northwest Jonathan which would be on the market when the Gravenstein came out if the latter were stored too long (table 61). That is, it was inadvisable to try to move the Gravenstein after the Northwest Jonathan was in the market. Many of those who did not store expressed the opinion that it was inadvisable unless the market during a part of the season was demoralized.

The quantity stored by those dealers who did store was small. From 1 to 5 cars was the usual size of holding. The carrying quality after storage was reported as varying. "Fairly well" was the common reply to the question as to how they carried after storage. The condition of the apple when it went into storage was stated to be important in relation to the carrying quality after the apples came out of storage. The loss after storage was reported as ranging from 2 to 10 per cent.

The principal reasons for storage of Gravensteins as given by wholesalers were to avoid a glutted market and to lengthen the season.

*Storage Operations With Newtowns.*—Storage of Newtowns is a common practice on the part of California wholesalers (table 62). The ratio of those who stored to those who did not store was 5 to 1. There was a tendency for more wholesalers in southern California to store than for northern California dealers, although some dealers in northern California reported exceedingly heavy operations in stored Newtowns.

The length of the storage period for Newtowns varied with the dealer in California. Yet, it is a common practice to hold some in storage until June 1. Some reported holding them until July 1.

## TABLE 61

### WHOLESALERS' AND JOBBERS' STORAGE OPERATIONS WITH GRAVENSTEINS

| Markets | Reporting | | | | Length of storage period | Why this period? | Quantity stored | Carrying after storage | Competition when out of storage | Why storage is practiced |
|---|---|---|---|---|---|---|---|---|---|---|
| | Having stored Gravensteins | | Not having stored Gravensteins | | | | | | | |
| | *Number* | *Per cent* | *Number* | *Per cent* | | | | | | |
| All California | 8 | 20 | 32 | 80 | 1 to 3 months | Must not hold into Jonathan movement. | 1 to 5 cars. | Varies; 2 to 10 per cent loss. | Northwest Jonathans. | Avoid glutted markets and lengthen the season. |
| Northern California | 5 | 24 | 16 | 76 | 1 to 3 months | Avoid market gluts | 1 to 5 cars. | Varies; 2 to 10 per cent loss. | Northwest Jonathans. | Avoid glutted market. |
| Southern California | 3 | 16 | 16 | 84 | 4 weeks | Avoid competition with Jonathan. | 5 cars. | Fairly well. | None if moved before Northwest Jonathans. | Lengthen the season |
| New York | 10 | 33 | 20 | 67 | 3 to 60 days | Avoid market gluts; speculate. | 100 boxes to 15 cars. | Bitter-pit causes considerable loss. | None until Jonathans are on the market | In anticipation of better prices. |
| All eastern | 16 | 16 | 31 | 84 | 3 to 60 days | Avoid market gluts; speculate. | A few boxes to 3 cars. | | | |

TABLE 62

Storage Operations With Newtowns*

| Markets | Reporting | | | | Length of storage period | Quantity stored | Why storage is practiced |
|---|---|---|---|---|---|---|---|
| | Storing | | Not storing | | | | |
| | Number | Per cent | Number | Per cent | | | |
| All California | 35 | 83 | 7 | 17 | Up to June | 1 to 250 cars, usually 10 to 50 cars | As below. |
| Northern California | 18 | 82 | 4 | 18 | Sept. to July, usually up to June | 1 to 250 cars, usually 25 to 50 | Supply the trade; speculate; in anticipation of better market. |
| Southern California | 17 | 85 | 3 | 15 | Up to June | 3 to 100 cars, usually 10 to 50 | Supply the trade; speculate; lengthen the season; too many at harvest. |

*As reported by wholesalers and jobbers.

TABLE 63

WHOLESALERS' AND JOBBERS' STORAGE OPERATIONS WITH BELLFLOWERS

| Markets | Dealers | | | | Length of storage period | Quantity stored | Why storage is practiced |
|---|---|---|---|---|---|---|---|
| | Storing | | Not storing | | | | |
| | Number | Per cent | Number | Per cent | | | |
| All California | 29 | 69 | 13 | 31 | 3 to 6 months, usually 3 months | 1 to 100 cars, usually 10 to 25 | As below. |
| Northern California | 11 | 50 | 11 | 50 | Up to January 1 | 1 to 10 cars | Supply too heavy at harvest; keep from ripening too rapidly. |
| Southern California | 18 | 90 | 2 | 10 | 3 to 6 months, usually 3 months | 2 to 100 cars, usually 10 to 25 | Speculate; supply trade; lengthen season. |

The quantity of Newtowns stored was considerable, dealers usually held 25 to 50 carloads in northern, and 10 to 50 in southern California. As many as 250 carloads were held by some dealers in northern California and as many as 100 carloads in the south.

The reasons given for storage were: (1) to supply the trade during the season, (2) to lengthen the marketing season, (3) to speculate, (4) to avoid too heavy supplies at harvest time, and (5) forced to store.

*Storage Operations With Bellflowers.*—There was a marked contrast between northern and southern California markets in storage of Bellflowers (table 63). Southern California wholesalers stored Bellflowers to a considerable extent, while only half of the dealers in northern California stored them. San Francisco dealers stated they did not have a Bellflower market. On the other hand, it was clear that Los Angeles was a Bellflower market.

The length of the storage period for Bellflowers varied from three to six months. There was a marked tendency, however, for southern California dealers to store for a longer period than northern California dealers. Many in southern California reported that they stored until the first of March.

The quantity stored varied greatly. The usual amount stored in southern California was from 10 to 25 carloads, some storing as high as 100 carloads, while in northern California dealers seldom stored more than 10 carloads.

The reasons given for storage were: (1) to have a supply for the trade, (2) to lengthen the marketing season, (3) to speculate, (4) to avoid too heavy supplies at harvest time, and (5) to keep the apples from ripening too rapidly.

Some of the southern California dealers reported that they had discontinued storing Bellflowers because Watsonville shippers had taken up storage operations and because of the danger of loss from bitter-pit. This is interesting because several Watsonville shippers reported that dealers' buying practices had forced them to store. (See "Watsonville Shippers' Storage Operations," pp. 113–114.)

## BROKERS' AND DISTRIBUTORS' OPERATIONS AND PRACTICES

*Relation of Apples to Other Products Handled by Brokers and Distributors.*—California brokers who dealt in apples had, as a rule, a considerable part of their business in apples. Two brokers reported dealing only in apples. Others reported that of their total business fruits as a whole ranged between 50 and 80 per cent of their business, vegetables usually comprising a lesser part. (See table 64.)

Of seven New York brokers interviewed only one did as much business in vegetables as in fruits, four dealing entirely in fruit, one almost entirely and three others from 65 to 80 per cent. This was to be expected since only those who were known as important fruit

TABLE 64

PER CENT OF BROKERS' AND DISTRIBUTORS' BUSINESS IN APPLES, FRUITS, AS A WHOLE, AND VEGETABLES

| Markets | Per cent in apples | Per cent in fruits as a whole | Per cent in vegetables |
|---|---|---|---|
| All California | 5–100 | 15–100 | 0–85 |
| Northern California | 5–100 | 35–100 | 0–65 |
| Southern California | 15–100 | 15– 90 | 10–85 |
| New York | 10– 90 | 50–100 | 0–50 |

brokers were interviewed. Of those interviewed, one reported 90 per cent of his business in apples but all others 50 per cent or less. One firm whose business was 95 per cent in fruit, estimated that only 10 per cent was in apples. In general, eastern brokers handled a greater volume of other fruits than did those in California. Apples, however, were a very important part of their business.

*Quantity of Apples Handled from Various Producing Sections.*—The quantity of apples handled by brokers and distributors from different districts varied greatly. Some brokers dealt only in apples from one or two districts while others handled some apples from nearly every district Northern California brokers reported doing little business in California apples, since the producing sections were so near to market that shippers could make their own contacts. On the other hand, distributors who had connections in the Sebastopol district did considerable business there. Southern California brokers handled large quantities of California apples, particularly from the Watsonville district, and, in contrast to northern California brokers, large quantities of apples from Idaho and Utah. (See table 65.)

Numerous eastern brokers handled no California apples. The larger receivers handled from 150 to 200 cars. Some of the distributors handled from 800 to 1,000 cars of Northwest apples. One broker handled from 2,000 to 3,000 cars from Washington, Oregon, and Idaho. With brokers interviewed the apple shipments handled averaged 66 per cent from the Pacific Northwest, 28 per cent from eastern and central states, and 6 per cent from California.

*Selling Practices With Reference to Split Cars, Pooled Orders, and Trucked-in Apples.*—The practice of splitting cars was common

TABLE 65

Quantity of Apples Handled from Various Producing Sections by Brokers and Distributors

| District of origin | Number of carloads handled by brokers and distributors | | |
|---|---|---|---|
| | Northern California markets | Southern California markets | New York |
| Sebastopol, California | 0- 350 | 0- 100 | 0- 200 |
| Watsonville, California | 0- 200 | 0-1250 | ..... |
| Other California | 0- 40 | 0- 15 | ..... |
| Idaho | 0- 900* | 0- 125 | 0-2000 |
| Washington | 0- 400 | 0- 150 | |
| Oregon | 0-1000 | 0- 25 | |
| Utah | 0- 5 | 0- 125 | |
| Others | 0- 5 | 0- 125 | |

*A national distributor.

among California brokers. It appeared, however, to be a more general practice among northern California brokers than among southern California brokers (table 66). Practically all eastern brokers interviewed handled split as well as straight cars. One handling only straight cars did a large export business.

Northern and southern California brokers presented a contrast in the practice of making up pooled orders. The former reported it a common practice while the latter stated that they did not make it a practice. Few answers to the question concerning pooled orders were received from eastern brokers. One reported making up pooled orders and two not making them.

Brokers in California did not, as a general rule, sell trucked-in fruits. Most of those who truck to market make their own contracts with dealers. Nevertheless, some brokers, as is shown in table 66, reported that they had sold trucked-in apples.

*Buying Practices and Operations.*—Brokers' terms of sale in California were usually cash. However, the terms of sale varied consid-

erably. There was a tendency for southern California brokers to extend credit longer than northern California brokers do. The terms of most New York brokers were cash.

The usual charges for handling carloads in California markets were 5 cents a box and $25.00 a car. In southern California markets

TABLE 66

SELLING PRACTICES OF BROKERS AND DISTRIBUTORS WITH REFERENCE TO SPLIT CARS, POOLED ORDERS, AND TRUCKED-IN FRUITS

| Market | Split cars | | | | Pooled orders | | | | Trucked-in fruits | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Selling straight cars only | | Selling split cars | | Making up pooled orders | | Not making up pooled orders | | Selling trucked-in fruits | | Not selling trucked-in fruits | |
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| All California | 8 | 42 | 11 | 58 | 9 | 45 | 11 | 55 | 6 | 30 | 14 | 70 |
| Northern California | 3 | 30 | 7 | 70 | 9 | 82 | 2 | 18 | 3 | 27 | 8 | 73 |
| Southern California | 5 | 56 | 4 | 44 | 0 | 0 | 9 | 100 | 3 | 33 | 6 | 67 |
| New York | 1 | 14 | 6 | 86 | 1 | 33 | 2 | 67 | | | | |

TABLE 67

BROKERS' AND DISTRIBUTORS' TERMS OF SALE AND BROKERAGE CHARGES

| Markets | Terms of sale | | | Borkerage charges | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Cash | "Usual terms" | Credit | Cents per box | | | | Dollars per carload | Per cent of sale price |
| | | | | 2.5 | 5.0 | 10 | 12.5 | $25–$30 | 5-7 per cent |
| | Number reporting | | | Number reporting | | | | | |
| All California | 9 | 5 | 5 | 1 | 9 | 2 | | 9 | 2 |
| Northern California | 5 | 5 | 1 | | 5 | 2 | | 2 | 2 |
| Southern California | 4 | | 4 | 1 | 4 | | | 7 | |
| New York | 4 | 4 | 1 | | | | 1 | 3 | 2 |

$25.00 a car was the usual charge, while in northern California markets the charge of 5 cents a box prevailed. But charges varied with different accounts and different circumstances.

The usual brokerage charges in New York were $25.00 and $30.00 a car. There was, however, little uniformity as to methods or amount of charges. (See table 67.)

## TABLE 68

General Practices of Brokers and Distributors With Reference to Collections, Exclusive Territory, and Type of Business

| Markets | Practice with reference to collections | | | Clients | | | Types of business conducted | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Making collections | Not making collections | Circumstances under which collections are made | Giving exclusive territory | | | Buying broker | Selling broker | Both Distribution | |
| | | | | All | None | Some | | | | |
| | Number reporting | | | Number reporting | | | Number reporting | | | |
| All California | 20 | 0 | If draft not attached and if shipper requests | 12 | 0 | 6 | 1 | 8 | 7 | 4 |
| Northern California | 11 | 0 | If draft not attached. All for some shippers | 6 | 0 | 3 | 1 | 1 | 5 | 4 |
| Southern California | 9 | 0 | If shipper requests. All for some shippers | 6 | 0 | 3 | 0 | 7 | 2 | 0 |
| New York | 5 | 0 | If draft not attached | 4 | 2 | 0 | 0 | 6 | 1 | 0 |

California brokers reported unanimously that they made collections. However, collections were not made under all circumstances. Practically all New York brokers made collections and considered it the usual procedure, except when draft was attached to bill of lading. One broker guaranteed all collections.

TABLE 69

FINANCIAL RELATIONS OF BROKERS AND DISTRIBUTORS WITH COUNTRY PACKERS AND SHIPPERS

| Markets | Number reporting | | Extent to which shippers were financed |
|---|---|---|---|
| | Financing shippers | Not financing shippers | |
| All California | 8 | 12 | Packing charges to $1.50 a box. |
| Northern California | 5 | 6 | Packing charges to one-third of market price. |
| Southern California | 3 | 6 | Packing charges to $1.00 a box. |
| New York | 4 | 3 | "Very little" to "a large extent." |

TABLE 70

BROKERS' AND DISTRIBUTORS' RELATIONS WITH CHAIN STORES

| Markets | Number reporting | |
|---|---|---|
| | Selling to chain stores | Not selling to chain stores |
| All California | 10 | 9 |
| Northern California | 4 | 6 |
| Southern California | 6 | 3 |
| New York | 6 | 0 |

Most California brokers reported that their clients gave them exclusive territory. Several reported that some of their clients gave them exclusive territory, while others did not. Half of the New York brokers reported that they did not have exclusive territory. (See table 68.)

Southern California brokers acted largely as selling brokers, while northern California brokers usually did both buying and selling. Most New York brokers are selling rather than buying brokers. One reported buying to supply a large chain store.

*Financial Relations With Packers and Shippers.*—Several California brokers and distributors reported that they financed shippers. The majority reported that they did not (table 69). It was a more common practice for distributors to finance shippers than for brokers

to do so. One distributor stated that it was impossible to do business unless they were in a position to finance shippers. While most New York brokers financed shippers only a few stated that they practiced it to any great extent.

The amount with which California brokers and distributors financed shippers varied greatly. The usual reply was "packing charges." The amount of financing done by New York brokers varied from "very little" to "the limit." One broker reported financing some of the larger pear growers of the Santa Clara Valley.

*Relations With Chain Stores.*—Southern California brokers reported selling to chain stores to a larger extent than did northern California brokers. Among distributors it was a common practice to sell to chain stores. Some brokers who did not at present sell to chain stores anticipated doing business with them in the future.

All New York brokers sold to chain stores and one reported selling in car lots to any buyer (table 70).

## SHIPPERS' OPERATIONS AND PRACTICES

Twelve shippers in the Sebastopol area, twenty in the Watsonville district, and five in other districts were interviewed in making this survey. Since each district presented a wide variation in conditions the data are presented by districts.

### SEBASTOPOL DISTRICT

*Number of Growers Served by Shippers.*—The number of growers for whom shippers packed varied greatly. One shipper packed only the fruit grown in his own orchard, while the highest number that any one shipper served was 450. The number of growers varied from year to year according to the number of contracts that the shipper made with the growers. As is shown in table 71, the average number of growers—which means little—served by a shipper was approximately 100.

*Packing and Selling Charges.*—There was little uniformity in the packing charges. Some shippers, particularly the cooperatives, packed at cost, while independent shippers packed at a flat rate. For packing alone, the charge varied from approximately 45 cents to 60 cents a box. However, these figures are not quite comparable because in the case of the 45-cent charge an additional charge of 3 cents for

strapping the box was made in case the shipment was for export, while the 60-cent charge included strapping. The usual charge for packing was 55 cents a box. (See table 72.)

In most cases, the selling charge was separate from the packing charge. Here too, there is a wide variation. Some shippers made a

TABLE 71

NUMBER OF GROWERS FOR WHOM SHIPPERS IN THE SEBASTOPOL AREA PACKED APPLES IN 1928

| Shipper No. | Number of growers | Shipper No. | Number of growers |
|---|---|---|---|
| 1 | 75 | 7 | 74 |
| 2 | 175 | 8 | 40 |
| 3 | 65 | 9 | 11 |
| 4 | 450 | 10 | 140 |
| 5 | 12 | 11 | 75 |
| 6 | 1 | 12 | 100 |

TABLE 72

SHIPPERS' CHARGES PER BOX FOR HANDLING APPLES IN THE SEBASTOPOL AREA IN 1928

| Shipper No. | Packing per box | Overhead | Selling | Others | Total per box |
|---|---|---|---|---|---|
| 1 | $0.45* | | $0.105 a box | $0.03 per box on export | $0.555 to $0.585 |
| 2 | | | | | 0.675 |
| 3 | 0.475* | $0.02 per box | 0.065 a box | | 0.56 |
| 4 | 0.55 | | Brokerage varies | Loading varies | Varies |
| 5 | 0.55 | | Brokerage varies | Inspection $5.00 per carload | Varies |
| 6 | 0.55 | | 0.10 a box | | 0.65 |
| 7 | 0.50* | | 7 to 10 per cent | | Varies |
| 8 | 0.60 | | 7 to 10 per cent | | Varies |
| 9 | 0.50* | | 0.05 a box | Auction charges additional | Varies |
| 10 | 0.55 | | 0.10 a box | | 0.65 |
| 11 | | | | | 0.65 |
| 12 | 0.55 | | 7 to 10 per cent | | |

*Packed at cost; figures given the calculation for 1928.

flat charge of 10 cents a box, while others sold on a commission basis, charging 10 per cent on f.o.b. sales and 7 per cent on auction or delivered sales. Again, other shippers charged the grower the brokerage fees which were charged against them. In case they use the auctions, the auction charge was additional.

Other charges for packing and selling were included in some instances, such as an overhead charge in the case of a cooperative, loading costs, and inspection fees.

The lack of uniformity in packing and selling charges makes it difficult to arrive at a total packing and selling charge. This was possible in only half of the cases. Even here it is doubtful if the figures are exactly comparable because, in the case of cooperatives, the total charge may vary from year to year in accordance with the volume of business handled. However, the data furnished by the shippers showed a variation of from 55½ cents to 67½ cents a box for packing and selling, with the average charge about 63 cents a box, and the usual charge 65 cents a box (table 72).

*Contracts Between Shippers and Growers.*—It was the general practice for shippers to contract with growers to pack and sell their crop (table 73). Only one shipper who packed for others did not make contracts.

In the case of independent shippers contracts were made each year, but in the case of cooperative shippers a continuous contract was made which carried the privilege of withdrawal each year. However, a clause is contained in most contracts which continues the contract in force for a longer period than one year in case the grower is indebted to the shipper. (See fourth paragraph of contract, page 100.)

The type of contract used by shippers in the Sebastopol district is principally the consignment contract. One shipper who buys outright, as well as packing on consignment, makes a purchase contract. In addition, one shipper inserted a clause in the consignment which gave him the option of purchasing the fruit in excess of the estimated quantity contracted by the grower on consignment.

The consignment contracts are very similar in their general nature. The principal features of them are covered in the following example:

This Agreement, made at....., California, this.....day of..... ....., 19....., between *John Jones*, hereinafter called the Grower, and *Blank Fruit Company*, hereinafter called the Shipper, Witnesseth:

"That for and in consideration of the sum of One Dollar ($1.00) in hand paid by the shippers to the grower and other valuable considerations, the receipt of which is hereby acknowledged, the Grower hereby places in the hands of the shipper to market for the Grower's account, his entire crops of apples for the season of 19..... grown on the following described property in Sonoma County, State of California, to wit:.....

It is agreed that this contract applies only to fruit of good merchantable quality, suitable for eastern shipment.

The Shipper shall receive for its services in marketing said crops, the usual commercial rates of loading and packing charges established by them, for said

season in the district in which the aforementioned lands are situated, also a commission of ten per cent (10%) of the gross proceeds from the sale of said crops upon f.o.b. sales, and seven per cent (7%) of the gross proceeds from the sale of said crops upon delivered sales which grower hereby agrees to pay. Said fruit is to be picked when mature and ready for market, and delivered by the Grower, at his own expense to the nearest packing house of said shipper, and shippers are to furnish the materials and do the packing and loading for which the grower has hereinbefore agreed to pay.

If the Grower is indebted to the Shipper at any time during the continuance of this agreement, the proceeds of said crop are hereby pledged to said shipper to secure said indebtedness; and if said indebtedness is not fully paid before December 1st, 19....., then this agreement is renewed for the next year's crop, and the proceeds are pledged to said Shipper for any indebtedness then existing.

Verbal or other agreements between the Grower and agents of the Shipper, contrary to the terms of this contract, are not authorized, and will not be recognized by the Shipper, nor will the Shipper be bound by any written alterations or changes of the printed form of this contract, it being expressly understood and agreed that the shipper is engaged only in the business of handling fruit on consignment.

By.....Shipper

.....Grower

Variations from this general type of contract were:

(1) A penalty clause was inserted by some shippers in case of failure on the part of the grower to deliver his fruit to the shipper. The penalty varied from 15 cents to 50 cents per packed box and in one case was 5 per cent of the f.o.b. value of the product.

(2) In the case of cooperatives, definite charges were not mentioned, the charges for handling and packing being cost.

(3) Four of the contracts contained a clause which referred to the method of sale, that is, whether or not the apples received by the shipper should be pooled. Two contracts stated that the fruit *shall* be pooled, one that the fruit *may* be pooled, and a fourth left it to the discretion of the shipper. An example follows:

" . . . . All apples handled by said shipper under this and similar agreements during said season shall be pooled and handled as if coming from one lot; provided, however, that each variety and grade shall be handled and accounted for separately."

In reply to a question, "When do you usually contract?" some shippers stated that they began by making contracts for the next season's operations in the fall, others in January, and some not until spring, while several stated that they make contracts any time during the year (table 73). The tendency is, however, to make more contracts in the spring than at other times during the year. Most con-

tracts end around December 1, and in the case of the cooperative contracts the withdrawal privilege is usually exercised during December.

In reply to a question on the advantages and disadvantages of contracting, the various shippers gave almost identical answers. Some amplified their answers, but in the main they can be summed up in the statement: Contracting assures the business and allows one to plan his operations in advance of the shipping season. Materials and supplies must be ordered and sales must be planned. None of the shippers found contracting disadvantageous.

TABLE 73

Practices of Shippers With Reference to Contracts in the Sebastopol Area

| Shipper No. | Are contracts made with grower? | Are contracts made every year? | Kind of contract | Time of year contract usually made |
|---|---|---|---|---|
| 1 | Yes | Yes | Consignment | Fall and early spring. |
| 2 | Yes | Yes | Consignment with right of purchase of excess contracted* | Fall and spring. |
| 3 | Yes | Continuous with withdrawal privilege | Consignment | Fall and winter. |
| 4 | Yes | Continuous with withdrawal privilege | Consignment | Any time, deadline June 1. |
| 5 | Yes | Yes | Consignment | Any time. |
| 6 | No | No, packs only own | | |
| 7 | Yes | Yes | Consignment and purchase | Winter. |
| 8 | Yes | Yes | Consignment | Fall. |
| 9 | No | No | None | |
| 10 | Yes | Continuous with withdrawal privilege | Consignment | Spring, after apples set. |
| 11 | Yes | Yes | Consignment | Spring. |
| 12 | Yes | Yes | Consignment | Spring. |

*"Should the quantity of fruit exceed said Grower's estimate as herein described, then and in that event, said Distributor is given the option of purchasing any remaining portion of said crop at the prices and upon conditions herein named."

*Shippers' Practices in Financing Growers.*—Financing of the grower by the shipper, as shown in table 74, was quite limited in the Sebastopol district. While four shippers reported that they made cash advances to growers for production purposes, only two indicated that they did so to a considerable extent.

Advances for production in the form of spray materials and fertilizers were made by several shippers. These materials were charged to the grower's account and deduction was made from the apple sales account to cover these items.

Shippers reported that requests for finances on the part of growers varied from year to year in accordance with the success or failure of other crops. This year, 1929, for instance, was a year in which the cherry crop was profitable, hence those growers who produce a considerable quantity of cherries were not in need of advances on their apples.

For harvesting and marketing, however, it was a common practice for shippers to make part payment to the grower as soon as the first

TABLE 74

SHIPPERS' PRACTICES IN FINANCING GROWERS IN THE SEBASTOPOL AREA

| Shipper | Advances for production | | Advances for harvesting | | Advances for marketing | |
|---|---|---|---|---|---|---|
| | Number of growers | Extent | Number of growers | Extent | Number of growers | Extent |
| 1 | 1 | $2,000 | 10 | 25% of value of crop | Some | |
| 2 | 150 | Spray material | Most | Advance on account. | Most | Part payment on delivery. |
| 3 | 12 | Varies; up to several thousand dollars. | 0 | 0 | All | Part payment on delivery. |
| 4 | 335 | Spray material and fertilizer. | 0 | 0 | 250 | Part payment. |
| 5 | 0 | 0 | 0 | 0 | All | Part payment on delivery |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | 45 | Several thousand dollars. | 0 | 0 | 60 | Part payment on delivery. |
| 8 | 10 | Spray material | 0 | 0 | 0 | 0 |
| 9 | 0 | 0 | 0 | 0 | 5 | Part payment on delivery. |
| 10 | 0 | 0 | 0 | 0 | 100 | Part payment on delivery. |
| 11 | 10 | Limited | Few | 0 | Few | Limited. |
| 12 | 0 | 0 | 0 | 0 | 20 | Part payment on delivery |

part of the crop was delivered to the shipper. Some reported that they made advances for harvesting before delivery of the crop, but the majority of the shippers did not make advances until a part of the crop was delivered.

The amount of the advance made by shippers upon delivery of the crop varied with market prices for apples. In years when prices are high, the advance is greater than when prices are low. The advance in 1928 was about 25 cents a box, while in 1929 it was as much as $1.25 a box.

It is of interest to note, however, that all of the growers did not ask for an advance upon delivery of their crop. Some shippers

reported that not more than 20 per cent of the growers requested advances. A total of the replies of all shippers show approximately half of the growers receiving advances. (See table 74.)

*Methods of Sale.*—Table 75 indicates that the methods of sale employed by the Sebastopol shippers varied from shipper to shipper. In many cases sales methods varied from year to year with the individual shipper. The bulk of the deal was, however, handled by wire through brokers or through sales agencies. Some of the shippers were affiliated with sales agencies and reported all their sales through these agencies, some excepting their export business.

TABLE 75

Sales Methods Employed by Sebastopol Shippers

| Shipper No. | To cash buyers locally | By wire through brokers | Through sales agencies | Consignment on commission | New York auctions |
|---|---|---|---|---|---|
| | *Per cent* | *Per cent* | *Per cent* | | |
| 1 | | 95 | | | 5 per cent. |
| 2 | | 20 to 65 | | Few at the end of season | Yes. |
| 3 | | | 100 | | About 3 per cent sold by the sales agency. |
| 4 | 1 to 10 | 90 to 100 | | Only parts of cars | Some. |
| 5 | 10 to 50 | | | | 50 to 90 per cent. |
| 6 | Little | 95 to 100 | | | Some. |
| 7 | 40 | 20 | 20 | | Some. |
| 8 | 60 to 80 | | 40 | | |
| 9 | 100 | | | | |
| 10 | | | 100 | | |
| 11 | Some C grade | | 90 to 95 | | |
| 12 | | 5 to 25 | 75 to 95 | | |

Approximately half of the shippers reported selling a part of their pack to cash buyers locally. One shipper reported selling all of his pack in this manner. Likewise, half of them reported that they sold a part of their pack on the New York auctions. One sold the bulk of his pack through the auctions. However, most of the shippers reported that their sales through the auctions represented only a small proportion of their total output.

Consignment on a commission basis was seldom practiced by Sebastopol shippers. A few reported selling small lots on consignment at the end of the season.

*Brands Used by Shippers.*—A great variety of brands was used in the Sebastopol district. Each shipper had a brand of his own and several had two or more brands for the same grade and quality of fruit. It was the general practice to put some sort of label on the

packed box even though the grade and quality of fruit was not 'Fancy.' In some cases a 'stock-label,' which merely carries a picture of apples without a brand name or without the name of the shipper, was put on the box.

The reason given for the use of more than one brand for the same quality of fruit was that competing wholesalers in the same market want different labels, in order that each might have exclusive control of a certain brand in his market. The wholesaler is not then confronted with the statement by prospective purchasers, "I can get the same quality with the same brand cheaper from a competitor."

Among the brands reported were the following:

"Hey Look"; "Moon Valley"; "Garbro"; "Sonoco"; "Union"; "U. S."; "R"; "4U"; "We"; "Mt. Fitch"; "Guallala"; "Geyser"; "Jackie Boy"; "Everyday"; "Sgobêl and Day"; and "Valley of the Moon."

*Reasons Given by Buyers for Not Purchasing California Gravensteins.*—Shippers were asked what reasons were given by buyers for not purchasing when a sale was under consideration and the sale was not made. Price was given as the reason by three-fourths of the shippers. In addition, competition of local fruit was said to be a reason by half the shippers. To illustrate: if the Arkansas apple crop was early, the Sebastopol shippers lost the Kansas City market. The latter reason, however, also resolves itself into a matter of price.

Two shippers reported that buyers objected to bitter-pit in Gravensteins, particularly on early shipments. One stated that buyers wanted a different variety.

*Sebastopol Shippers' Experiences in Storing Gravensteins.*—One-half of the shippers reported that they had stored Gravensteins (table 76). From 2 to 5 weeks was the length of the storage period. Most shippers preferred to hold them not longer than 3 weeks. The quantity stored ranged from 7 to 75 carloads.

The competition met by Gravensteins when coming out of storage was mainly Northwest Jonathans. Most shippers preferred to move the stored Gravensteins before this competition became serious.

As a whole the carrying quality after the Gravensteins came out of storage was reported as satisfactory. However, most shippers reported that this varied with the condition in which the apples went into storage. If put in too green, bitter-pit developed in storage, and if put in too ripe they did not carry well.

*Cooperation Among Sebastopol Apple Growers and Shippers.*—Several cooperative endeavors have been undertaken by apple growers

and shippers in the Sebastopol district. In 1911, the Sebastopol Apple Growers Union was organized. It grew in favor among the growers until approximately 85 per cent of the crop grown in that area was handled by this organization.

However, by 1922 conditions within the Sebastopol apple industry had changed in many respects. The apple producing section had spread in Sonoma County and into Napa County. At the same time total production of Gravensteins had increased remarkably. Where

TABLE 76

Sebastopol Shippers' Experiences in Storing Gravensteins

| Shipper No. | Quantity stored | Length of storage period | Competition met after storage | Carrying quality after storage |
|---|---|---|---|---|
| | *Carloads* | | | |
| 1 | 0 | ..... | ..... | ..... |
| 2 | Up to 75 | Up to 4 weeks..... | Little. N. W. Jonathans.... | O. K. when put in storage firm, not mealy. |
| 3 | 22 | 10 to 20 days..... | None..... | Very good. |
| 4 | 30 to 50 | 2 to 3 weeks..... | N. W. Jonathans, Winter Bananas..... | .....<br>O. K. Some bitter-pit. |
| 5 | 0 | ..... | ..... | ..... |
| 6 | 7 | 30 days..... | None. If left too long N. W. Jonathans..... | .....<br>A hazard—bitter-pit develops |
| 7 | 0 | ..... | ..... | ..... |
| 8 | 0 | ..... | ..... | ..... |
| 9 | 0 | ..... | ..... | ..... |
| 10 | 36 | 5 weeks..... | N. W. Jonathans..... | Some bitter-pit on first that went in. Others O. K. |
| 11 | 0 | ..... | ..... | ..... |
| 12 | 20 | 3 weeks..... | N. W. Jonathans..... | Those stored ripe O. K. |

approximately 47,000 boxes were produced in 1912 and 1913, more than 1,000,000 boxes were produced in 1923. Again, increased competition of apples from other early sections was experienced. Added to this was the factor of improved cold-storage methods which permitted the carrying of stored apples from the Pacific Northwest much longer.

As a result of the unsatisfactory situation a committee of apple growers, bankers, and merchants was appointed in the fall of 1923 to study the marketing plans of various cooperative apple associations. This committee submitted a majority and minority report. The majority report recommended that the Apple Growers Union affiliate with a national cooperative sales agency. The minority report was in opposition to this recommendation. A vote of the stockholders of the Apple Growers Union on this proposal favored the minority report.

A large number of those who favored the majority report withdrew from the Apple Growers Union and formed the nucleus of a new organization, the Gravenstein Apple Growers Cooperative Association of Sonoma County. This association was a non-stock cooperative with voting privileges equal, as contrasted to the Apple Growers Union, which was organized on a capital stock basis with voting privileges on a stock-share basis.

By 1926, a third cooperative had entered the field and at the same time there were 15 private shippers in business.

The year 1926 was one of heavy production both in the Gravenstein area and in the United States as a whole. In fact, it was a year of record production in the Gravenstein district and one of the largest total United States crops.[33] Several groups of growers in different communities selected committees to study the situation. The movement to appoint committees continued until there were 16 committees including 48 growers. These met to discuss their problems and decided to form a new organization which would occupy a dominant position in the Gravenstein deal. A committee of five was selected from the group of 48 committemen and these at once set to work to form a suitable organization. It soon became evident that if as much as 90 per cent of the industry was to be included (the figure named by one group as necessary before it would join) it would be necessary to include the independent as well as the cooperative shippers. The committee therefore proposed a growers' cooperative organization to be known as the California Gravenstein Apple Growers, more commonly spoken of as 'Central.' It was to act primarily as a clearing house. Its objects were to (1) secure orderly and adequate distribution, (2) encourage f.o.b. sales, (3) provide grower minimum-price control, (4) build up new markets and (5) eliminate undue competition among shippers. Growers and shippers contracted with the organization for a period of 15 years. The affairs of the association were managed by a board of directors known as 'Central.' During the shipping season a Clearing House Board composed of shippers and an equal number of representatives appointed by the 'Central' endeavored to accomplish the purposes outlined by the organization. The set-up is shown in figure 10.

The clearing house organization operated for two years. The 1927 crop, a small one, was handled to the general satisfaction of the growers. However, the 1928 crop, a large one, presented many difficulties.

[33] Rauchenstein, Emil. Factors affecting the price of Gravenstein apples at Sebastopol. Hilgardia. 3:326. 1928.

An opening minimum price was named which proved to be out of line with market conditions. Shipments were rolled unsold and quotations were lowered in spite of attempts to keep them firm. The result was misunderstanding, lack of confidence among shippers, and an attempt on the part of each shipper to shift the responsibility for failure to realize prices that were fixed as minimum. Several shippers admitted that the opening price was too high but stated they dared not recommend a lower price for fear that such a recommendation might injure their standing with the growers.

SET-UP OF THE CALIFORNIA GRAVENSTEIN APPLE GROWERS ASSOCIATION

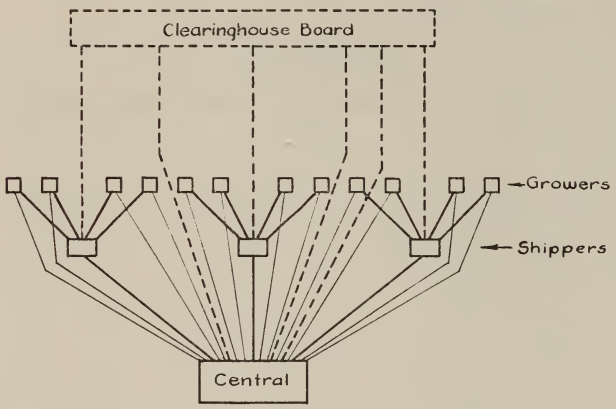



Fig. 10.—This association represents an attempt to combine cooperative and private shipping units into a single organization.

The experience of the 1928 season induced the California Gravenstein Apple Growers Association to appoint a committee to study the situation and recommend a plan of action. This committee requested the Giannini Foundation of Agricultural Economics of the University of California to make the study reported in this bulletin. The committee after studying a preliminary report of this survey recommended that the two leading cooperatives form one cooperative association and purchase such facilities from independent packers as would be needed to adequately handle the volume. The committee's report was accepted and approved at the annual meeting of the California Gravenstein Growers but was not accepted by either of the cooperatives involved.

## WATSONVILLE DISTRICT

*Number of Growers Served by Shippers.*—Watsonville shippers operated on a distinctly different basis from Sebastopol shippers. Most of the Watsonville shippers packed only the fruit grown in their own orchards and that which they purchased from other growers (table 77). Only seven of the twenty shippers interviewed reported the number of growers whom they ordinarily served. The range was from 10 to 75 growers. Of these seven only four stated that they handled apples on consignment. Two of these operated on a strictly consignment basis and the other two purchased apples as well as operating on consignment.

TABLE 77

NUMBER OF GROWERS FOR WHOM SHIPPERS IN THE WATSONVILLE AREA PACKED APPLES

| Shipper No. | Number of growers | Shipper No. | Number of growers |
|---|---|---|---|
| 1 | Own and apples bought. | 11 | 10 |
| 2 | 50 | 12 | Own apples |
| 3 | Own and apples bought. | 13 | Own and apples bought. |
| 4 | 35 | 14 | Own. |
| 5 | 31 | 15 | Own. |
| 6 | Own and apples bought. | 16 | Own and apples bought. |
| 7 | 15 | 17 | Own and apples bought. |
| 8 | 75 | 18 | 50 |
| 9 | Own and apples bought. | 19 | Own and apples bought. |
| 10 | Own and apples bought. | 20 | Own and apples bought. |

*Packing and Selling Charges.*—Most shippers in the Watsonville district could only estimate the packing and selling charges, owing to a lack of records on this phase of their business. Estimates on the cost of packing ranged from 40 cents to 55 cents a box, 45 and 50 cents, a box being most frequent. Several shippers reported that they could not even make an estimate because they did not attempt to separate packing costs from other costs. They stated that they began their season's operations with a certain sum of money and ended with another sum and merely figured their total profit or loss.

Among the shippers who handled apples on a consignment basis there was little uniformity in the packing and selling charges. One of these stated that the charges were on the basis of cost which ranged between 50 and 55 cents per box for packing and selling, and 25 to 30 cents a box for handling loose apples. Another gave the charges

as follows: 5 cents per loose box for sorting; for packing, including boxes, 31 cents a box if the stock was unwrapped, and 35 cents if the stock was wrapped. For stock packed for export an additional 5 cents a box was charged. For selling, a charge of 10 per cent of the gross sale price was made. A third shipper reported his charges as cost for sorting and packing plus 5 cents a box for packed apples and $2.50 a ton for loose apples to cover overhead expenses. A selling charge of $25.00 a car was made in addition to the handling charge for handling packed apples and $1.00 a ton was charged for selling loose apples. A fourth reported a charge of 50 cents a box for sorting and packing and a 7 per cent commission for selling when sales were made on a delivered basis and 10 per cent when made on an f.o.b. basis.

*Contracts Between Shippers and Growers.*—As shown in table 78, the usual type of contract made with growers in the Watsonville area was the purchase contract. Only four of the twenty shippers interviewed made consignment contracts. Two of these shippers were cooperatives in which membership constituted a contract unless the grower indicated that he would not deliver his fruit to the association.

Most shippers reported that they made contracts with the grower every year. However, some shippers stated that they made contracts for a period ranging from four to eight years.

There was little uniformity in the purchase contracts owing to the fact that each contract covered a different situation. In some cases the shipper leased the orchard for one year or a period of years. In other instances he bought the crop at harvest time, picking and packing as he saw fit. Again, some shippers contracted at a specified sum per box for one year or a period of years, the grower to pick and deliver the fruit to the packer's shed. Consequently, each contract contained distinctive features.

The consignment contracts were in the main similar to those used in the Sebastopol area. (See pages 99–100.) Provisions were made for the deduction of handling and selling charges. Likewise, a clause stating that the shipper "shall have the right to pool all or any of the grower's apples with those of other growers, such pool to be made on the basis of variety and grade" was usually contained in the contract.

Spring and summer were reported as the time of the year when contracting was heaviest (table 78), yet about half of the shippers reported that they made contracts any time during the year. In view of the fact that it is a common practice for shippers to purchase the crop on the trees, early summer is a period of heavy contracting.

Watsonville shippers' reports on the advantages and disadvantages of contracting were similar to those of Sebastopol shippers. The fact, however, that most contracts were purchase contracts rather than consignment contracts, caused Watsonville shippers to discuss contracting from a slightly different angle. The majority, after stating the advantages of contracting, discussed the relative merits of purchase contracts versus consignment contracts. It was generally stated

TABLE 78

PRACTICES OF SHIPPERS WITH REFERENCE TO CONTRACTS WITH GROWERS IN THE WATSONVILLE AREA

| Shipper No. | Are contracts made with growers? | Are contracts made every year? | Kind of contract | Time of year contract usually made |
|---|---|---|---|---|
| 1 | Yes | Yes | Purchase | Any time. |
| 2 | Yes | No | Purchase | July-August. |
| 3 | No | No | None | ..... |
| 4 | Yes | Continuous with withdrawal privilege | Consignment | Summer. |
| 5 | Yes | Continuous with withdrawal privilege. | Consignment | Any time—June 1 deadline. |
| 6 | Yes | Yes | Purchase | Harvest. |
| 7 | Yes | Yes | Consignment and purchase | April to harvest. |
| 8 | Yes | Yes | Purchase and consignment | May to harvest. |
| 9 | Yes | Yes | Purchase | Any time. |
| 10 | Yes | Yes | Purchase | Any time. |
| 11 | Yes | Yes | Purchase | Spring and summer. |
| 12 | No | No | None | ..... |
| 13 | Yes | Yes | Purchase | June, August. |
| 14 | Yes | Yes | Purchase | Any time. |
| 15 | Yes | Yes | Purchase | Spring and summer. |
| 16 | Yes | Yes | Purchase | Any time. |
| 17 | Yes | Yes | Purchase | Any time. |
| 18 | Yes | Yes | Purchase | Any time. |
| 19 | Yes | Yes | Purchase | July-August. |
| 20 | Yes | Yes | Purchase | Mid-summer. |

that the purchase contract was preferable because a definite price was named. It was said that the consignment contract never satisfied the grower because no matter what price was paid, the grower always felt that he should have received a higher price.

The Watsonville situation between growers and shippers is a highly speculative one. The shipper aims to purchase from the grower at as low a price as possible and the grower aims to sell for as high a price as possible. Contracts made early in the season before definite information on the local crop and the total United States crop is available, are necessarily highly speculative. On the other hand, contracts made late in the season when prospective supplies are more

accurately known are less hazardous. The late contract is likely to result in a lower price to the grower in years of heavy production and a higher price in years of light production.

*Shippers' Practices in Financing Growers.*—Direct financing of growers for production purposes was limited in the Watsonville district (table 79). However, most shippers financed growers indirectly

TABLE 79

Shippers' Practices in Financing Growers in the Watsonville Area

| Shipper No. | Advances for production | | Advances for harvesting | | Advances for marketing | |
|---|---|---|---|---|---|---|
| | Number of growers | Extent | Number of growers | Extent | Number of growers | Extent |
| | *1* | *2* | *3* | *4* | *5* | *6* |
| 1 | 0* | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 50 per cent | Picking charges | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | All | 10 cents a box | 0 | 0 |
| 5 | All | Spray material | All | 10-20 cents a box | 0 | 0 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | 15 | 20 per cent of value of crop | † | ‡ | † | ‡ |
| 8 | Some | Spray material | Most | 10-20 cents a box | 0 | 0 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 50 | $25,000 total | † | ‡ | † | ‡ |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 |

*Shippers who reported that they did not finance growers stated that their pruchase contracts called for part payment at the time that contracts were signed. This payment was approximately one-third of the purchase price.
†Included in Col. 1.
‡Included in Col. 2.

through their contract. To illustrate: if an orchard were purchased for $3,000, a third or $1,000 was paid to the grower in the spring when the contract was executed, a third on October 20, and a third on November 20. Those shippers who made purchase contracts reported this procedure as a common practice. Hence growers obtain a considerable portion of their capital for production purposes from shippers.

Shippers who operated on a consignment basis reported financing practices very similar to those of the Sebastopol shippers. Advances

were made in the form of spray materials and in some cases cash for production, and a cash advance was usually made to cover picking expenses.

*Methods of Sale.*—Watsonville shippers as a whole reported selling principally through brokers and to cash buyers locally (table 80). Approximately 80 per cent was sold through brokers and 20 per cent sold to cash buyers. The method of sale varied from year to year and

TABLE 80

SALES METHODS EMPLOYED BY WATSONVILLE SHIPPERS

| Shipper | To cash buyers locally | By wire through brokers | Through sales agencies | Consignment on commission | New York auctions |
|---|---|---|---|---|---|
| | *Per cent* | *Per cent* | *Per cent* | *Per cent* | *Per cent* |
| 1 | 25 | 75 | 0 | Only when forced to | 0 |
| 2 | 15–20 | 80–85 | 0 | ..... | 0 |
| 3 | 20 | 80 | 0 | Some | 0 |
| 4 | 15–20 | 80–85 | 0 | 0 | 0 |
| 5 | 50 | 45 | 0 | 5 | 0 |
| 6 | 15 | 80 | 0 | 0 | 5 |
| 7 | 40 | 25 | 0 | 35 | 0 |
| 8 | 0 | 0 | 100 | 0 | 0 |
| 9 | 5 | 95 | 0 | 0 | Little |
| 10 | 10 | 80 | 0 | 10 | 0 |
| 11 | 20 | 50 | 10 | 10 | Some |
| 12 | 5–10 | 90 | 0 | 0 | 0 |
| 13 | 10 | 90 | 0 | Some | 0 |
| 14 | 15 | 80 | 0 | 5 | 0 |
| 15 | 0 | 100 | 0 | 0 | 0 |
| 16 | 80 | 20 | 0 | 5 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 |
| 18 | 15 | 75 | 0 | 10 | 0 |
| 19 | 95 | 5 | 0 | 0 | 0 |
| 20 | 30 | 70 | 0 | 0 | 0 |

from shipper to shipper. One shipper reported selling as much as 95 per cent of his pack "on track."

Consignment was in little favor among Watsonville shippers. They reported selling in this manner only as a last resort.

The New York auctions were little used, only three shippers reporting that they had ever sold this way.

*Brands Used by Shippers.*—As was the case in the Sebastopol area, a large number of brands were used by the Watsonville shippers. Some shippers had more than one brand for the same grade of fruit. Reasons given for the use of more than one brand were similar to those given by Sebastopol shippers. (See page 104.)

Among the brands reported were the following: "Premium," "L.G.B.," "Applesauce," "M.F.T.," "R-Best," "Quality Seal," "Red Crown," "Medal," "Black Cat," "Sterling L," "Swastika," "Green Cleat," "Clipper," "IXL," "Nightingale," "Bear," Goldenrule," "Mission Bell," "Bon Ton," "Progresso," "Lion," "Barney," "Peacock," "Diving Girl," "Spotlight," "Truth," "Sunkist," "Square Deal," "Economy," "Great West," "M.M.B. Best," "Clover," "Orchard," "Wall Street," "Pride," "Pennant," "Uncle Abe," "Aptos," and "Golden Gate."

*Reasons Given for Not Purchasing California Newtowns and Bellflowers.*—"Price" was reported by shippers as the principal reason given by buyers for not purchasing when a sale was under consideration but was not made. Other reasons were: "fruit too yellow and too ripe," "fruit dirty," "poorly packed," "appearance," "other trade connections," "Northwest competition," "color," "homegrown supplies," "quality," "immaturity," and "market conditions."

Most shippers stated that the new apple grading law which required that dirty apples be washed would eliminate many of the objections offered against Watsonville apples.

*Watsonville Shippers' Storage Operations.*—Most of the Watsonville shippers engaged in storage operations rather extensively. All but one of the twenty interviewed stored Newtowns and twelve of the twenty stored Bellflowers. The quantity stored varied from 10 to 75 cars of Newtowns and from 2 to 40 cars of Bellflowers. (See table 81.)

As a whole shippers reported storage operations as profitable. Some stated, however, that storage was not profitable every year. The immediate reason for storing was stated to be that supplies were too heavy at harvest time to move at satisfactory prices. Furthermore, it was reported that wholesalers had forced shippers to store in recent years by a policy of buying for immediate requirements rather than purchasing supplies in the fall and storing on their own account. This factor was responsible for the construction of two cooperative cold storage houses in the Watsonville district.

It was the general practice of Watsonville shippers to hold Bellflowers until February and Newtowns until June. Some held for a longer period but the majority preferred to sell before that time.

*Cooperation Among Watsonville Shippers.*—In 1929, nineteen apple growers and shippers held membership in the Watsonville Apple Growers and Packers Association. This organization had as its principal purpose "to determine prices and establish terms of

## TABLE 81

### WATSONVILLE SHIPPERS' STORAGE OPERATIONS

| Shipper No. | Do you store? | | How long? | | Quantity | | Is storage profitable? | | Other reasons for storing |
|---|---|---|---|---|---|---|---|---|---|
| | Newtowns | Bellflowers | Newtowns | Bellflowers | Newtowns | Bell flowers | Newtowns | Bellflowers | |
| | | | *to* | *to* | *cars* | *cars* | | | |
| 1 | Yes | Yes | July | Feb | 50-70 | 20 | Some years | Some years | Can't sell all at harvest. |
| 2 | Yes | No | May | | 10-12 | | Yes | | Must because of market at harvest. |
| 3 | Yes | No | May | | 30 | | Ordinarily | | Buyers have forced shippers to store. |
| 4 | Yes | No | June | | 40-75 | | Ordinarily | | Can't be consumed at harvest time. |
| 5 | Yes | Yes | June | Feb | 100 | 20 | No | Yes | Must store. |
| 6 | Yes | Yes | May | Feb | 55 | 20 | Some years | Yes | Store to feed. |
| 7 | Yes | Yes | June | Jan | 25 | 10 | Yes | Yes | Too many on market at harvest. |
| 8 | Yes | No | June | | 35 | | Usually | | Avoid glutted market. |
| 9 | Yes | Yes | June | Feb | 30-45 | 10 | Yes on the average | Yes | |
| 10 | Yes | Yes | June | Feb | 20-35 | 12 | Ordinarily | Yes | Must store. |
| 11 | Yes | Yes | June | Feb | 40-50 | 20 | Yes | | Market glutted in fall. |
| 12 | No | No | | | | | | | |
| 13 | Yes | Yes | May | Jan | 10-18 | 2-5 | No | Sometimes | Too many at harvest. |
| 14 | Yes | Yes | May | Feb | 10 | 20 | No | | |
| 15 | Yes | No | April | | 25-40 | | | | |
| 16 | Yes | Yes | June | Jan | 50-60 | 10-40 | | | Wholesalers no longer buy heavily in fall. |
| 17 | No | No | | | | | | | |
| 18 | Yes | Yes | Feb | Jan | 20-35 | 10-25 | Yes | Some years | Supply too great at harvest. |
| 19 | Yes | No | Mar | | 12 | | Some years | | When prices too low at harvest. |
| 20 | Yes | Yes | Feb | Feb | 20 | 5-6 | Usually | Usually | Must store. |

sale and/or otherwise to dispose of the apples controlled by the association and to enter into agreements with brokers, distributors and/or others for the harvesting, sorting, grading, storing, evaporating, canning and/or otherwise preparing the same and/or any by-product thereof for marketing and for the sale, marketing and/or consignment thereof.''[34]

The association acts primarily as a sales agency for the members. Each member has the privilege of making sales outside of the association but these must be approved by the organization. The secretary makes billings, collections, and routings. A fee of one cent a box is charged on all sales to defray the expenses of the association. Each sale is made on a separate basis. If an order for 10 cars is under consideration, members of the organization agree to fill the order. Upon completion of this transaction the shippers receive the returns netted on this order. No attempt is made to pool sales for the season.

In the fall of 1929, it was estimated by Mr. E. J. Faul, Secretary of the Association, that the organization controlled 40 per cent of the output of the Watsonville district. Members of the association felt that they had accomplished several things through their organization, namely (1) the establishment of more uniform price quotations, (2) the elimination of objectionable trade practices, (3) concerted action on matters of mutual interest to shippers, and (4) somewhat better distribution of the crop. It was stated, however, by members and non-members that control of a larger portion of the crop would be necessary before the association could function to best advantage in distributing it.

Watsonville shippers cooperate to a considerable extent in their storage operations. Two cold storage houses are operated on this basis. One of the houses has been in operation for ten years, and the other is beginning its second season. These report that they have stored for members at from one-half to one-third of commercial storage rates. Several shippers who are members of the Watsonville Apple Growers and Packers Association are members of the cooperative cold storage association.

---

[34] Section 5, Article III. By-Laws of the Watsonville Apple Growers and Packers Association.

## APPLE DISTRICTS OTHER THAN SEBASTOPOL AND WATSONVILLE

There were so few shippers outside of the Sebastopol and Watsonville districts that it is impossible to make general statements regarding their operations and practices.

Shippers in the Beaumont, Yucaipa, and Sonora districts were interviewed. Since conditions varied widely in these sections it was

TABLE 82

NUMBER OF GROWERS FOR WHOM SHIPPERS PACKED APPLES IN THE BEAUMONT, YUCAIPA, AND SONOMA DISTRICTS

| Shipper No. | Number of growers | Location |
|---|---|---|
| 1 | 200 | Beaumont. |
| 2 | 40 | Yucaipa. |
| 3 | 2 | Sonora. |
| 4 | 12 | Sonora. |
| 5 | 1 | Sonora. |

TABLE 83

SHIPPERS' CHARGES PER BOX FOR HANDLING APPLES IN THE BEAUMONT, YUCAIPA, AND SONORA DISTRICTS

| Shipper No. | Packing | Overhead | Selling | Other charges | Total |
|---|---|---|---|---|---|
| 1 | $0.07* | ..... | 10-15 per cent..... | Material, sorting, grading, and washing..... | ..... |
| 2 | 0.40 | ..... | 7½ per cent..... | $0.10 for sorting..... | ..... |
| 3 | 0.55 | ..... | $0.10..... | ..... | $0.65 |
| 4 | ..... | ..... | ..... | ..... | 0.59 |
| 5 | 0.42 | ..... | 15 per cent..... | Depreciation $0.08..... | ..... |

*A charge for merely wrapping and packing the apples.

TABLE 84

PRACTICES OF SHIPPERS WITH REFERENCE TO CONTRACTS IN THE BEAUMONT, YUCAIPA, AND SONORA DISTRICTS

| Shipper No. | Are contracts made with grower? | Are contracts made every year? | Kind of contract | Time of year contract is usually made |
|---|---|---|---|---|
| 1 | Sometimes | No..... | Consignment purchase..... | Just prior to harvest. |
| 2 | Yes..... | Yes..... | Consignment..... | August. |
| 3 | No..... | No..... | ..... | ..... |
| 4 | Yes..... | No..... | Consignment..... | March. |
| 5 | No..... | No..... | ..... | ..... |

## TABLE 85

Shippers' Practices in Financing Growers in the Beaumont, Yucaipa, and Sonora Districts

| Shipper No. | Advances for production | | Advances for harvesting | | Advances for marketing |
|---|---|---|---|---|---|
| | Number of growers | Extent | Number of growers | Extent | Number of growers |
| 1 | All | Spray material boxes | All | | All. |
| 2 | Most | Spray material | 50 per cent | Picking | Few. |
| 3 | None | | None | | None. |
| 4 | None | | None | | None. |
| 5 | None | | None | | None. |

## TABLE 86

Shippers' Sales Methods in the Beaumont, Yucaipa, and Sonora Districts

| Shipper No. | To cash buyers locally | By wire through brokers | Through sales agencies | Consignment on commission | New York auctions |
|---|---|---|---|---|---|
| 1 | 75 per cent | 0 | 0 | 25 per cent | 0 |
| 2 | 85 per cent | 0 | 0 | 15 per cent | 0 |
| 3 | 75-80 per cent | 0 | 0 | 20-25 per cent | 0 |
| 4 | Some | Mostly | 0 | Some years | 0 |
| 5 | When prices high | 0 | Some | When prices low | 0 |

## TABLE 87

Shippers' Experiences in Storing Apples in the Beaumont, Yucaipa, and Sonora Districts

| Shipper No. | Varieties stored | Quantity stored | Length of storage period | Remarks |
|---|---|---|---|---|
| 1 | Gravenstein | 15 tons | 3 months | Kept well; had to compete with more highly colored Gravensteins when taken out of storage. |
| 2 | All varieties grown locally | 35,000 to 60,000 boxes | 1–8 months | Stores to supply local trade and for better prices later in season. |
| 3 | Delicious and Winesap | Up to 6,000 boxes | Up to June | Stores to supply local trade; usually profitable. |
| 4 | Delicious, Rome Beauty and Winesap | Up to 20 cars | Up to March | Stores if prices are not satisfactory at harvest time. |
| 5 | Delicious, Winesap | 7 cars | Up to May | Profitable some years. Stores if prices not satisfactory in the fall. |

thought advisable to merely present, in tabular form, such data as were obtained. Tables 82, 83, 84, 85, 86, and 87, summarize the principal points covered in the interviews with these shippers.

The most outstanding difference in operations between these other districts and the Sebastopol and Watsonville districts was in the method of sale. The former sold the bulk of their pack to cash buyers locally while the latter sold mostly by wire through brokers.

Among the brands reported by shippers were "Mountain Boy," "Big Red," "Bret Harte," "Sun Red" and "Mountain Apple."

## GROWERS' FINANCING AND MARKETING PROBLEMS

### SEBASTOPOL DISTRICT

In this area a special study was made of the use of credit by growers and the relation of the source of credit to the growers' marketing methods and practices. Confidential reports from 188 growers in the area showed that in 1929, 106, or about 57 per cent of those replying were using credit as follows:

| | *Amount* | *Per Cent of total* |
|---|---|---|
| Mortgage credit | $450,045.00 | 86.9 |
| Production credit | 42,325.00 | 8.2 |
| Marketing credit | 25,225.00 | 4.9 |
| Total | $517,595.00 | 100.0 |

The prevailing rate of interest was 7 per cent on all classes of credit, although the rates varied from 6 per cent to 8 per cent. Commercial banks supplied over three-fourths of the marketing credit for this group of growers, and shippers supplied less than 10 per cent. (See tables 88 and 89.)

Growers were asked what type of marketing organization they thought would best solve their marketing problems. Of 186 replies to this question 140 favored a cooperative marketing organization, 38 favored private organizations, and 8 had other ideas.

*Service Rendered by Marketing Agencies.*—In order to obtain an idea as to how satisfactory present marketing services are, growers were asked how many different shippers they had dealt with in the past five years. A total of 186 answered the question. Of 139 now members of cooperatives, 76, or 54 per cent, stated that they had dealt with the same cooperative for the entire period, while of the 37 who have dealt with independent packers only 8, or 21 per cent, have stayed with the same shipper for that length of time. Of 88 growers

who gave reasons for changing from one shipper to another 34 stated that they expected larger returns, 31 reported unsatisfactory service, 8 reported poor management on the part of the shipper, and 16 gave varying replies.

TABLE 88

Marketing Credit as Reported by 25 Growers in the Gravenstein Producing Area*

| Interest rate | Amount | Per cent of total amount | Number of loans | Per cent of total loans |
|---|---|---|---|---|
| 8 | $ 1,700 | 6.74 | 5 | 20.00 |
| 7 | 20,850 | 82.66 | 14 | 56.00 |
| 6 | 2,000 | 7.93 | 1 | 4.00 |
| No rate reported | 675 | 2.67 | 5 | 20.00 |
| Total | $25,225 | 100.00 | 25 | 100.00 |

*Including Sebastopol, Forestville, Healdsburg, Santa Rosa, and Sonoma.

TABLE 89

Source of Marketing Credit Reported by 25 Growers in the Gravenstein Producing Area

| Agency | Amount | Per cent of total amount | Number of loans | Per cent of total loans |
|---|---|---|---|---|
| Commercial banks | $19,800 | 78.49 | 17 | 68.00 |
| Individuals | 3,000 | 11.89 | 1 | 4.00 |
| Shippers | 2,425 | 9.62 | 7 | 28.00 |
| Total | $25,225 | 100.00 | 25 | 100.00 |

TABLE 90

Growers' Attitude Toward Marketing Agencies Serving Them

| Connection | Number replies | Service satisfactory | | Service fair | | Service unsatisfactory | |
|---|---|---|---|---|---|---|---|
| | | Number replies | Per cent | Number replies | Per cent | Number replies | Per cent |
| Cooperative | 131 | 89 | 68 | 17 | 13 | 25 | 19 |
| Private | 31 | 16 | 52 | 3 | 10 | 12 | 38 |
| Total | 162 | 105 | 65 | 20 | 12 | 37 | 23 |

The question was asked: "Are you satisfied with the service rendered by the present marketing agency?" Of 131 members of cooperatives who replied, 68 per cent answered "yes," and 19 per cent "no," while 13 per cent stated that the service was fair. Among

patrons of private shippers (31 answers) 51 per cent answered "yes," and 39 per cent "no" and 10 per cent reported the service as fair.

One of the most important reasons for sending out the questionnaire to growers was to ascertain the sentiment of the community regarding the type of marketing agency best suited to local needs. As shown in table 91, 59 per cent of the replies recommended one large cooperative, 25 per cent suggested a federated type with several local units, and the remainder indicated satisfaction with existing conditions. Most of those who wanted one large cooperative listed a federated type as second choice, and vice versa.

TABLE 91

GROWERS' OPINIONS OF THE TYPE OF MARKETING AGENCY BEST SUITED TO MARKETING NEEDS OF THE GRAVENSTEIN APPLE INDUSTRY

| Type of agency | Number of replies | Per cent |
|---|---|---|
| One large cooperative | 111 | 59 |
| Federated cooperative | 47 | 25 |
| Clearing house | 5 | 3 |
| Present situation | 11 | 6 |
| No answer | 14 | 7 |
| Total | 188 | 100 |

GROWERS' OPINIONS AS TO TYPE OF MARKETING AGENCY BEST SUITED FOR GRAVENSTEIN APPLE INDUSTRY

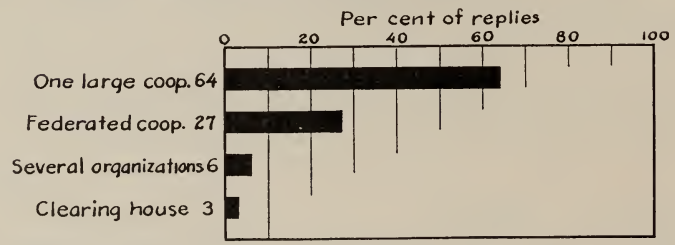



Fig. 11.—Growers clearly favored one large cooperative. (Based on table 91.)

WATSONVILLE DISTRICT

In the Watsonville area there are two types of growers, (1) those who pack their own crop and (2) those who sell to or through packers and shippers. In the survey of shippers' operations and practices, a view of the grower-packer problem was obtained, but to gain an idea of the financial condition of the smaller growers who sell their crop to the local packer, and to learn their attitude toward local condi-

tions and current market facilities, required personal interviews. Hence the sample was smaller than in the Sebastopol area. Of those interviewed approximately 75 per cent were owners while the balance were either tenants or managers.

In the Sebastopol region practically all apples are sold on a consignment basis to independent packers or to cooperative marketing organizations. Methods of sale are, therefore, fairly uniform and growers' returns depend upon general market conditions or upon the particular market to which the crop is sent. Only four growers reported packing and selling their own product. In contrast to the Sebastopol situation, there are approximately one hundred different growers in the Watsonville area who pack and sell their own crop. However, the smaller growers contract with the grower-packer under various types of agreements. (See page 109.)

The question was asked: "Do you sell your crop in advance of the marketing season in order to get money to carry on production operations?" To this 70 per cent replied that they did not, and 30 per cent that they did or sometimes did. From these replies it is impossible to conclude just what percentage of growers do actually obtain credit from buyers to whom they sell, but evidently a good many do. In answer to the question, "Why do you sell before the shipping season if it isn't to get credit?" some replied that it was customary to sell before the shipping season began, that it was the best practice to sell this way, or that they wanted to know definitely what their crop would bring.

*Market Agency Affiliations and Attitude Toward Service Rendered.*—Fifty per cent of the growers interviewed sold their crop to independent packers, 7 per cent sold through local cooperatives and 2 per cent sold through commission men. Twenty per cent reported selling through channels other than those enumerated while 2 per cent used a combination of all the agencies listed.

Seventy per cent of the growers stated that they had dealt with more than one agency in the past five years. Approximately 30 per cent stated that the service of the agency they were using was satisfactory or fairly satisfactory, another third that they were not satisfied, while the remainder did not reply. Seventy-eight per cent stated that they were not satisfied with existing marketing facilities; 7 per cent said they were satisfied, and 16 per cent did not answer. The complaints of those who were dissatisfied were, in order of the number of times mentioned:

(1) "Poor distribution of the product because of disorganized condition of shippers."

(2) "Too much price variation and too much difference between the prices paid by the consumer and those paid to the producer."

(3) "Returns obtained were low."

(4) "Improper and undependable grading of fruit."

(5) "Storage facilities poor."

*Time of Sale.*—Eight per cent of the growers stated that they had sold in 1928 before the shipping season began while nearly 35 per cent reported selling in advance of the shipping season in 1929. This brings out the fact that in a short crop year, as in 1929, buyers compete for volume early in the season, while in years of large crops, as in 1928, they can easily obtain the volume they care to handle. In years of heavy production the market is, then, entirely a buyers' market; but when the crop is small it is a growers' market.

*Methods of Sale.*—The question was asked, "Is it more desirable to sell your crop for a lump sum than to sell by packed grades?" The answers were about equally divided. Some thought that it was advisable to pack. Others figured selling for a lump sum avoided risks of crop damage in packing and transit and avoided loss due to price fluctuation. The growers were asked if they had had any unsatisfactory results from contracting the sale of their crop, about one-third failed to reply, one-third said they had, and one-third that they had not had any unsatisfactory results from contracting.

The last question was, "What suggestions can you make for improving present marketing conditions?" Some of the suggestions follow:

"Centralize distribution and divert surplus into by-products."

"Centralize assembling and distribution."

"Cooperative marketing and more storage facilities."

"Need a nation-wide marketing agency."

"Daily reports on apple prices similar to egg quotations would help."

"Better organization, and more cooperation."

"Ship only first-class fruit and standardize the packs."

"Cheaper credit would help."

"Sell on the trees at a flat price for a period of from 3 to 8 years."

## APPLE STORAGE

The storage operations of various factors in the trade have been discussed above (pages 87 to 91 and 103 to 113). Here consideration is given such phases of apple storage as the quantities stored, the movement in and out of storage, the costs of storage, and the difficulties encountered.

*Quantities of Apples Stored.*—Cold-storage space in the United States increased from 200,000,000 cubic feet in 1914 to more than

TABLE 92

Apple Cold-Storage Holdings in the United States, 1915–1928
(Thousands of Bushels)*

| Crop Year | Oct. 1 | Nov. 1 | Dec. 1 | Jan. 1 | Feb. 1 | March 1 | Apr. 1 | May 1 | June 1 |
|---|---|---|---|---|---|---|---|---|---|
| 1915–16 | ..... | 11,067 | 16,323 | 14,439 | 12,708 | 9,726 | 5,952 | 3,105 | 912 |
| 1916–17 | ..... | 9,780 | 13,476 | 12,396 | 10,155 | 7,326 | 4,635 | 2,424 | 795 |
| 1917–18 | ..... | 9,888 | 14,067 | 13,797 | 11,871 | 8,490 | 5,349 | 2,034 | 477 |
| 1918–19 | ..... | 11,256 | 14,784 | 12,882 | 9,315 | 5,316 | 2,868 | 1,140 | 375 |
| 1919–20 | 2,913 | 13,569 | 17,769 | 16,587 | 13,572 | 9,486 | 5,067 | 2,418 | 639 |
| 1920–21 | 1,632 | 13,425 | 20,361 | 19,158 | 15,315 | 10,950 | 6,630 | 3,357 | 1,335 |
| 1921–22 | 2,376 | 10,929 | 17,217 | 16,287 | 12,939 | 9,270 | 5,790 | 2,832 | 942 |
| 1922–23 | 4,356 | 16,563 | 20,229 | 19,443 | 16,128 | 11,631 | 6,942 | 3,210 | 831 |
| 1923–24 | 2,781 | 20,742 | 30,297 | 29,088 | 23,529 | 17,895 | 11,613 | 6,240 | 2,304 |
| 1924–25 | 2,460 | 17,274 | 22,419 | 20,019 | 15,699 | 11,283 | 6,864 | 3,429 | 1,197 |
| 1925–26 | 4,266 | 22,467 | 28,194 | 25,536 | 21,153 | 15,900 | 9,942 | 4,954 | 1,875 |
| 1926–27 | 3,612 | 21,321 | 31,458 | 28,068 | 21,905 | 15,342 | 9,423 | 4,794 | 1,605 |
| 1927–28 | 3,114 | 17,976 | 23,493 | 20,535 | 15,923 | 11,097 | 7,363 | 4,134 | 1,808 |
| 1928–29 | 4,893 | 26,199 | 31,177 | 27,156 | 20,577 | 13,524 | 8,154 | 3,771 | 1,173 |

*Sources: 1915-1927. Rauchenstein, Emil. Economic aspects of the apple industry. California Agr. Exp. Sta. Bul. **445**: 30, 1927. 1927-28 from U. S. Dept. Agr. Yearbook **1928**: 767. 1929 and U. S. and Dept. Agr. Bur. Agr. Econ. monthly issues of Crops and Markets.

600,000,000 cubic feet in 1925.[35] The quantity of apples placed in cold storage each season has also increased. In 1915 the December 1 holdings were 16,323,000 bushels compared with 31,177,000 bushels on the same date in 1928.

The peak of cold storage holdings of apples in the United States has usually been reached on the first of December. The figures for this month show that total holdings have reached the 31,000,000 bushel mark in the 1923 and 1926 seasons, whereas prior to that time 20,000,000 bushels was the record.

[35] McKay, A. W., *et al.* Marketing fruits and vegetables. U. S. Dept. Agr. Yearbook **1925**:680. 1926.

In California, the peak of storage holdings is reached slightly earlier in the year. A total of 2,600,000 bushels were reported on November 15, 1928.[36] (See table 93 and Figure 12.)

The total quantity placed in cold storage varies from year to year with the size of the crop and particularly with the size of the commercial crop.

TABLE 93

COLD STORAGE HOLDINGS OF APPLES IN CALIFORNIA; IN A HOUSE IN WATSONVILLE, CALIFORNIA; AND IN A HOUSE IN SAN FRANCISCO, CALIFORNIA, IN BOXES, 1927 AND 1928 SEASONS*

| Date | California holdings | | Watsonville house | | San Francisco house | |
|---|---|---|---|---|---|---|
| | 1927 | 1928 | 1927 | 1928 | 1927 | 1928 |
| Sept. 15 | 136,259 | 388 176 | 29,987 | 78,835 | 3,059 | 8,378 |
| Sept. 30 | 490,986 | 958,809 | 147,407 | 185,659 | 26,177 | 47,311 |
| Oct. 15 | 1,058,157 | 1,753,943 | 257,747 | 296,553 | 94,413 | 123,624 |
| Oct. 30 | 1,733,655 | 2,368,197 | 286,202 | 393,495 | 173,872 | 192,503 |
| Nov. 15 | 2,106,632 | 2,600,251 | 294,919 | 395,888 | 217,362 | 225,675 |
| Nov. 30 | 2,186,020 | 2,546,815 | 293,328 | 406,900 | 221,809 | 223,114 |
| Dec. 15 | 2,065,705 | 2,447,690 | 281,136 | 396,038 | 213,984 | 209,355 |
| Dec. 30 | 1,848,129 | 2,269,244 | 258,451 | 374,869 | 202,864 | 188,717 |
| Jan. 15 | 1,637,038 | 2,190,969 | 238,424 | 345,858 | 183,964 | 170,609 |
| Jan. 30 | 1,454,120 | 1,913,108 | 199,282 | 294,557 | 161,352 | 149,632 |
| Feb. 15 | 1,229,513 | 1,625,790 | 166,334 | 230,561 | 135,123 | 123,434 |
| Feb. 28 | 990,779 | 1,384,014 | 137,526 | 175,973 | 117,676 | 106,883 |
| Mar. 15 | 861,585 | 1,130,680 | 120,191 | 130,076 | 99,596 | 89,930 |
| Mar. 30 | 685,330 | 886,338 | 97,160 | 81,938 | 80,095 | 75,027 |
| Apr. 15 | 528,418 | 673,521 | 77,030 | 58,556 | 63,508 | 61,315 |
| Apr. 30 | 398,061 | 493,231 | 55,366 | 44,015 | 50,787 | 45,918 |
| May 15 | 276,740 | 346,009 | 36,554 | 25,063 | 38,155 | 34,383 |
| May 30 | 172,451 | 201,669 | 15,604 | 10,069 | 27,892 | 23,386 |
| June 15 | 100,733 | 106,867 | 3,679 | 3,339 | 17,248 | 13,296 |
| June 30 | 64,360 | 66,812 | 18 | 2,219 | 12,293 | 8,503 |
| July 15 | 43,031 | 35,048 | 13 | 423 | 8,390 | 4,981 |
| July 30 | 30,650 | 20,288 | 7 | 122 | 5,669 | 3,445 |
| Aug. 15 | 30,694 | 26,889 | 7 | 100 | 4,782 | 2,490 |
| Aug. 30 | 74,363 | 26,024 | 11,491 | 612 | 3,893 | 2,129 |

*Data from semi-monthly reports of cold storage. U. S. Dept. Agr., Bur. Agr. Econ. San Francisco, California. Courtesy O. W. Holmes.

*Peak In and Out Movements.*—The peaks of 'in' and 'out' movements vary from year to year with the date of maturity of the crop and with market conditions. In 1929 the movement into storage was delayed because of late maturity.

In the Watsonville district one cold storage plant reported the peak 'in' movement as follows: 1925–26 season, October 6 to 15; 1926–27 season, September 15 to 21; 1927–28 season, September 26 to October 4; and 1928–29 season, October 7 to 15.

[36] Market News Service Reports, U. S. Dept. Agr. Bur. Agr. Econ. San Francisco, California.

An example of the effect of market conditions on the 'out' movement was observed in the short crop year of 1921. The crop went into storage at high prices but on January 1, 1922, storage stocks were above the five-year average for the period from 1917 to 1921.[37] Average prices in January, 1922, at New York were $3.01 a box as compared with $3.36 a box in October, 1921. Thus market conditions delayed the 'out' movement.

COLD-STORAGE HOLDINGS OF APPLES IN CALIFORNIA; 1927 AND 1928 SEASONS

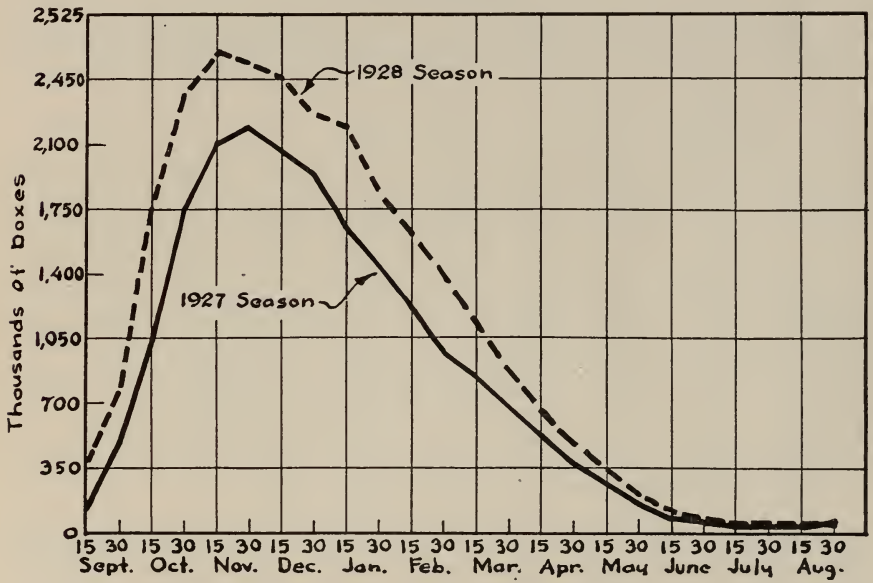



Fig. 12.—Apples move into storage rapidly from the beginning of October through the month of November when storage holdings reach their peak, and move out gradually after the middle of December. (Data from table 93.)

Some idea of the peak movements may be gained from reports on total holdings. An increase in total holdings indicates an 'in' movement and vice versa. From table 94 it is evident that peak 'in' movements in California occur in October, since holdings increase about 1,000,000 boxes at that time. On the other hand, there is no well-defined peak for the 'out' movement. Total California holdings decrease at about the rate of 100,000 boxes each 15 days from November 30 to June 15.

The peak movements in and out of storage are, however, different for the several varieties of apples. Table 94 indicates the periods of storage placements and withdrawals.

[37] U. S. Dept. Agr. Yearbook 1925:865, 867. tables 179–180. 1926.

Managers of cold-storage plants reported that the length of time that apples were held by those who placed them in storage depended to some extent on the district in which the fruit was produced. For example, the Newtown produced in the Soledad and Greenfield districts in Monterey County, California, was known as a long-keeper. Likewise, the Winesap and Rome Beauty varieties from the Big Pine region in southern California were reported to store well.

*Difficulties Encountered in Storage.*—The several varieties of apples present different problems in storage. With the Gravenstein the principal difficulty was reported to be the development of bitter-pit. Most storage operators stated that their experience with this variety was limited. However, outside of the development of bitter-pit in some lots they stated that the Gravenstein kept satisfactorily for short periods. Usually three weeks was the maximum length of storage.

TABLE 94

PEAK IN AND OUT MOVEMENTS OF APPLES IN STORAGE IN CALIFORNIA HOUSES BY VARIETIES*

| Variety | Peak in movement | Peak out movement |
|---|---|---|
| Gravenstein | August | August. |
| Bellflower | September | October and November. |
| Jonathan | October | November and December. |
| Newtown | October | February. |
| Winesap | October and November | March to May. |
| Rome Beauty | October | February and March. |
| Delicious | October | February and March. |

*As reported by cold storage plant managers in California.

The Bellflower was said to develop bitter-pit or "fungus"[38] as the trade termed it, to a marked degree in some instances. In Los Angeles, where the bulk of California Bellflowers are marketed, the risk of bitter-pit developed was said to be the cause of a decline in speculative operations in this variety by wholesale dealers. (It was noted on page 113 that Watsonville shippers reported that the wholesale trade had forced them to store.)

A further trouble with Bellflowers was stated to be rapid ripening. This was held to be a factor inherent in the variety.

With the Newtown, internal browning caused the greatest difficulty, particularly when it was stored for a long period. Storage temperatures were reported to affect the development of this disease.

[38] This term is decidedly inappropriate, in asmuch as a causal organism has not been isolated, bitter-pit being held to be a physiological trouble.

Plant managers reported less difficulty at 36° Fahrenheit than at lower temperatures. Scald was stated to add to storage difficulties with Newtowns, but was not reported troublesome except where difficulties were experienced with ventilation.

Other varieties of apples were said to keep satisfactorily in storage. Only one manager reported difficulty and that was with the Jonathan. He had experienced some trouble with 'soft scald.'

TABLE 95

Cold Storage Rates on Apples, per Standard Apple Box*

| City | Quantity | Rate for first month | Rate succeeding months per month | Rate for season |
|---|---|---|---|---|
| | | *Cents* | *Cents* | *Cents* |
| All California cities†‡ | 300 boxes or more | 9 | 5 | 25 |
| | 50 to 300 boxes | 10 | 6 | 30 |
| | Less than 50 boxes | 11 | 7 | 35 |
| New York, Newark | 300 boxes or more | 10 | 7 | |
| | 50 to 300 boxes | 12 | 9 | 23 |
| | Less than 50 boxes | 15 | 11 | |
| Jersey City | 300 boxes or more | 10 | 6 | |
| | 50 to 300 boxes | 12 | 8 | 23 |
| | Less than 50 boxes | 15 | 10 | |
| Philadelphia | Carload | 8 | 6 | |
| | Less than carload | 10 | 8 | ..... |
| Detroit, Chicago, Cleveland, Albany | Carload | 9 | 6 | 25 |

*California Railroad Commission No. 41, cold storage warehouse tariff 6-A, p. 6 Item 120. Sept. 18, 1929; and statements of cold storage plant managers.

†Watsonville houses have a special rate on apples stored loose in boxes. This is 8 cents for the first month, 5.4 cents for each succeeding month, and 20 cents for the season.

‡In case shipment goes to export, San Francisco houses assumed the cartage charge.

*Financing by Storage Companies.*—None of the California storage companies studied made a practice of financing the person who placed apples in storage other than advancing freight and handling charges. Only one house reported carrying the storage charge. In New York, one large storage company financed up to 50 per cent of the market value of the apples. In Philadelphia, one house reported financing up to 85 per cent of market value. Storage companies in Cleveland, Ohio; Detroit, Michigan; and Albany, New York, financed and advertised this fact on their rate cards.

*Storage Space Available for Apples.*—The amount of space available for apples in the various plants that were visited in California

varied from 350,000 cubic feet to 3,250,000 cubic feet, but two had 3,000,000 or more. In New York, the capacity of one of the largest houses was reported as 8,500,000 cubic feet. While all of this space might be available for apples, the various houses, except in the Watsonville district, also stored other products in this space.

TABLE 96

COST OF CONSTRUCTING AND EQUIPPING A 205,000 BOX COLD STORAGE PLANT

| Item | Cost |
|---|---|
| Land | $ 7,273.50 |
| Road and fills | 2,117.00 |
| Spur track | 1,546.95 |
| Water supply | 1,823.54 |
| Foundation and floors | 16,000.00 |
| Fill under floors (4 foot sand fill) | 7,000.00 |
| Balance of building | 88,975.00 |
| Machinery foundations | 900.00 |
| Coils, fans and bunkers | 20,958.00 |
| Compressors, condensers, cooling tower, etc. | 21,042.00 |
| Warehouse equipment | 1,789.55 |
| Office equipment | 562.25 |
| Construction bond | 2,323.12 |
| Building extras and additions | 6,982.65 |
| Miscellaneous, tools, etc. | 324.82 |
| Total | $179,618.48 |

*Storage Rates.*—Storage charges in California are regulated by the Railroad Commission. The rates effective in 1929 are given in table 95.

Cooperative cold storage houses are permitted to store for their members at cost. One such house reported an average cost of 9 cents per box per season. This house has operated ten years. Another house reported its cost as 8.13 cents per box per season.

*Cost of Construction.*—A matter of considerable interest to apple growers is the cost of constructing and equipping a cold storage plant. Through the courtesy of Mr. M. L. Cox, Manager of the Apple Growers Cold Storage plant at Watsonville, California, the data in table 96 are available. This house has a capacity of approximately 205,000 boxes.

## APPLE SUPPLIES AND WHOLESALE PRICES

*Trends in Apple Production.*—Statistics of apple production are usually classified as (1) total United States production, (2) commercial production, (3) production in the barreled apple region, and (4) production in the boxed apple region. Estimates of commercial production prior to 1916 are not available, but complete data on the other three phases of production are furnished by the United States Department of Agriculture for a considerable period.

In table 97 the data for total United States, commercial, barreled apple, and boxed apple production since 1890 and 1916 are presented. The trends of commercial production and production in the boxed apple regions are decidedly upward. On the other hand, the trend of production in the barreled apple region is downward. The trend in total United States production is slightly upward if one considers the whole period since 1890, but if one considers only the period 1909 to 1928 the trend for total United States production is slightly downward.

*Apple Prices and Production.*—Prices of California apples are to a large extent influenced by total United States production. The position of supplies, the rate of movement to market, and many other factors also exert an influence. However, growers too often blame the marketing machinery or the management of marketing enterprises for unsatisfactory prices when the principal trouble has been burdensome supplies.

In table 98 the relation between apple production and prices is presented. Prices have been converted into purchasing power by dividing actual prices by the all-commodity index to make allowance for the changing value of the dollar. It is well known that prices of most things are higher now than they were during the period 1910 to 1914. If all prices went up at the same rate, a bushel of apples would buy as many goods at one time as at another. But they do not. Hence prices over a long period cannot be compared without making allowance for changes in the buying power of the dollar. This has been done in column 4, table 98.

A comparison of the items year by year in column 1 (total United States production) and column 4 (purchasing power, or adjusted price) shows that price is influenced to a great extent by total production. This is particularly true in years of exceptionally heavy or exceptionally light production.

## TABLE 97

APPLE PRODUCTION IN UNITED STATES IN BOXED APPLE REGION, BARRELED APPLE REGION, AND COMMERCIAL PRODUCTION, 1890–1928

| Crop year | Total* U. S. production | Barreled apple production | Boxed apple production | Commercial production |
|---|---|---|---|---|
| | Thousands of bushels | Thousands of bushels | Thousands of bushels | Thousands of bushels |
| | *1* | *2* | *3* | *4* |
| 1890 | 80,142 | 75,876 | 3,966 | ..... |
| 1891 | 198,907 | 193,584 | 5,322 | ..... |
| 1892 | 120,536 | 116,184 | 4,353 | ..... |
| 1893 | 114,773 | 108,741 | 6,033 | ..... |
| 1894 | 134,648 | 128,628 | 6,021 | ..... |
| 1895 | 219,600 | 212,565 | 7,035 | ..... |
| 1896 | 232,600 | 227,664 | 4,935 | ..... |
| 1897 | 163,728 | 154,254 | 9,474 | ..... |
| 1898 | 118,061 | 109,134 | 8,928 | ..... |
| 1899 | 175,398 | 169,425 | 5,973 | ..... |
| 1900 | 205,930 | 196,587 | 9,342 | ..... |
| 1901 | 135,500 | 126,555 | 8,946 | ..... |
| 1902 | 212,330 | 201,030 | 11,301 | ..... |
| 1903 | 195,680 | 184,239 | 11,442 | ..... |
| 1904 | 233,630 | 220,656 | 12,975 | ..... |
| 1905 | 136,220 | 124,752 | 8,469 | ..... |
| 1906 | 216,720 | 202,233 | 14,487 | ..... |
| 1907 | 119,560 | 107,631 | 11,928 | ..... |
| 1908 | 148,940 | 134,700 | 14,241 | ..... |
| 1909 | 145,412 | 130,863 | 15,258 | ..... |
| 1910 | 141,640 | 123,252 | 18,287 | ..... |
| 1911 | 214,020 | 198,147 | 15,873 | ..... |
| 1912 | 235,220 | 210,219 | 25,002 | ..... |
| 1913 | 145,410 | 124,929 | 20,481 | ..... |
| 1914 | 253,200 | 226,197 | 27,003 | ..... |
| 1915 | 230,011 | 208,569 | 21,441 | ..... |
| 1916 | 193,905 | 176,220 | 28,362 | 80,241 |
| 1917 | 166,749 | 126,597 | 40,152 | 67,023 |
| 1918 | 169,625 | 137,295 | 32,331 | 74,229 |
| 1919 | 142,086 | 91,539 | 50,547 | 78,447 |
| 1920 | 223,677 | 183,315 | 40,368 | 101,715 |
| 1921 | 99,002 | 46,448 | 52,515 | 64,671 |
| 1922 | 202,702 | 152,028 | 50,676 | 95,835 |
| 1923 | 202,842 | 138,999 | 63,843 | 107,808 |
| 1924 | 171,725 | 126,741 | 44,505 | 84,039 |
| 1925 | 172,389 | 119,595 | 52,794 | 99,738 |
| 1926 | 246,524 | 183,975 | 62,550 | 117,357 |
| 1927 | 123,693 | 76,050 | 47,406 | 78,051 |
| 1928 | 184,920 | 121,998 | 63,022 | 105,924 |

*Table 128, U. S. Dept. Agr. Yearbook **1928**: 764, 1929.

†The Apple Situation in New York. Cornell Ext. Bul. **172**: 112-114. 1928; and U. S. Dept. Agr. Bur. Agr. Econ. Crops and Markets **5**: (12) 445. 1928. Same as

‡U. S. Dept. Agr. Yearbook **1920**: 653, U. S. Dept. Agr. Yearbook 1923: 732 and

¶U. S. Dept. Agr. Yearbook **1928**: 765.

## TABLE 98

Total Apple Production in the United States, New York Prices, and Purchasing Power

| Crop year | Total production*, thousands of bushels | Price per bushel,† average Sept. to May | All-commodity index,‡ average Sept. to May, 1910-1914 base | Purchasing power per bushel,¶ Sept. to May; 1910-1914 base |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| 1890 | 80,142 | $1.25 | 84 | $1.49 |
| 1891 | 198,907 | 0.52 | 77 | 0.68 |
| 1892 | 120,536 | 0.83 | 80 | 1.04 |
| 1893 | 114,773 | 1.18 | 73 | 1.62 |
| 1894 | 134,648 | 0.94 | 71 | 1.33 |
| 1895 | 219,600 | 0.79 | 70 | 1.13 |
| 1896 | 232,600 | 0.56 | 68 | 0.83 |
| 1897 | 163,728 | 1.10 | 71 | 1.54 |
| 1898 | 118,061 | 1.22 | 72 | 1.70 |
| 1899 | 175,397 | 0.90 | 82 | 1.10 |
| 1900 | 205,930 | 0.98 | 81 | 1.21 |
| 1901 | 135,500 | 1.50 | 83 | 1.80 |
| 1902 | 212,330 | 0.73 | 89 | 0.82 |
| 1903 | 195,680 | 0.95 | 87 | 1.09 |
| 1904 | 233,630 | 0.79 | 88 | .89 |
| 1905 | 136,220 | 1.32 | 88 | 1.61 |
| 1906 | 216,720 | 1.10 | 93 | 1.18 |
| 1907 | 119,560 | 1.11 | 93 | 1.19 |
| 1908 | 148,940 | 1.32 | 95 | 1.39 |
| 1909 | 145,412 | 1.22 | 104 | 1.17 |
| 1910 | 141,640 | 1.45 | 96 | 1.51 |
| 1911 | 214,020 | 1.07 | 98 | 1.09 |
| 1912 | 235,220 | 0.98 | 102 | 0.96 |
| 1913 | 145,410 | 1.43 | 101 | 1.41 |
| 1914 | 253,200 | 0.97 | 100 | 0.97 |
| 1915 | 230,011 | 1.00 | 113 | 0.89 |
| 1916 | 193,905 | 1.58 | 157 | 1.00 |
| 1917 | 166,749 | 1.70 | 189 | 0.90 |
| 1918 | 169,625 | 2.53 | 204 | 1.24 |
| 1919 | 142,086 | 2.51 | 232 | 1.08 |
| 1920 | 223,677 | 1.89 | 180 | 1.05 |
| 1921 | 99,002 | 2.61 | 145 | 1.80 |
| 1922 | 202,702 | 1.71 | 159 | 1.07 |
| 1923 | 202,842 | 1.55 | 154 | 1.01 |
| 1924 | 171,725 | 2.24 | 159 | 1.41 |
| 1925 | 172,389 | 1.90 | 158 | 1.20 |
| 1926 | 246,524 | 1.37 | 150 | 0.98 |
| 1927 | 123,693 | 2.55 | 150 | 1.70 |
| 1928 | 184,920 | 2.11 | 152 | 1.39 |

*U. S. Dept. Agr. Yearbook **1928**, 764, Table 128.

†Calculated by the authors from figures in Tables 201 and 202 U. S. Dept .Agr. Yearbook **1923:** 739: table 128 U. S. Dept. Agr. Yearbook **1927**: 839; and data subsequent to 1927 furnished by Dr. O. C. Stine, U. S. Dept. Agr. Bur. Agr. Econ.

‡As reported by Warren and Pearson in "Farm Economics," monthly publication of Cornell University.

¶Calculated by dividing the price per bushel in column 2 by all-commodity index in column 3.

WHOLESALE APPLE PRICES AT SAN FRANCISCO, JULY TO NOVEMBER, 1926 AND 1927

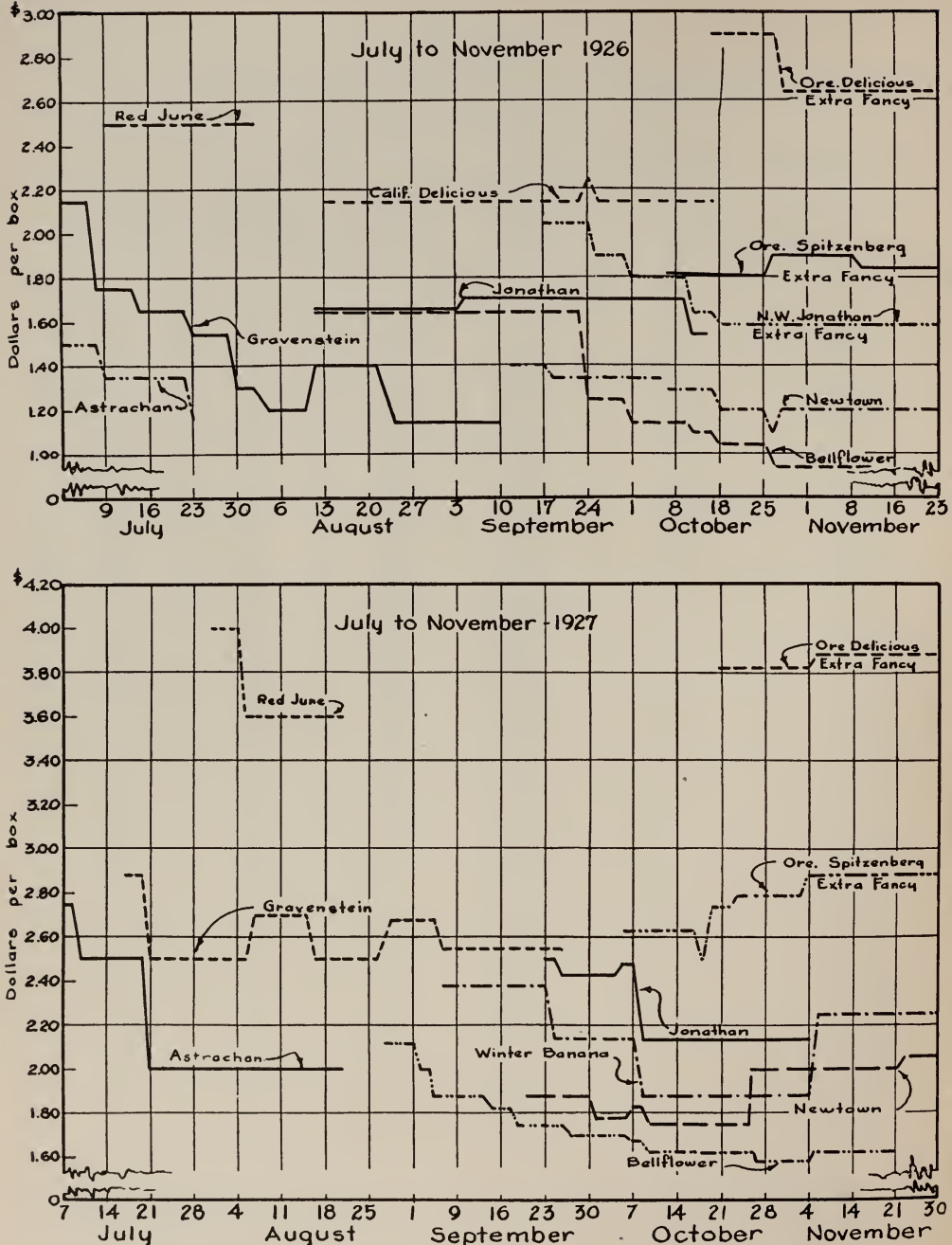



Fig. 13.—In the San Francisco market Astrachans sell at a discount compared with Gravensteins. Red Junes bring a premium over Gravensteins. Newtowns are higher priced than Bellflowers. Delicious is the highest priced of the late varieties. (See also fig. 14.) (Data from Daily Market News Service Reports, Bur. Agr. Econ. San Francisco, Calif.)

WHOLESALE APPLE PRICES AT SAN FRANCISCO, JULY TO NOVEMBER, 1928 AND 1929

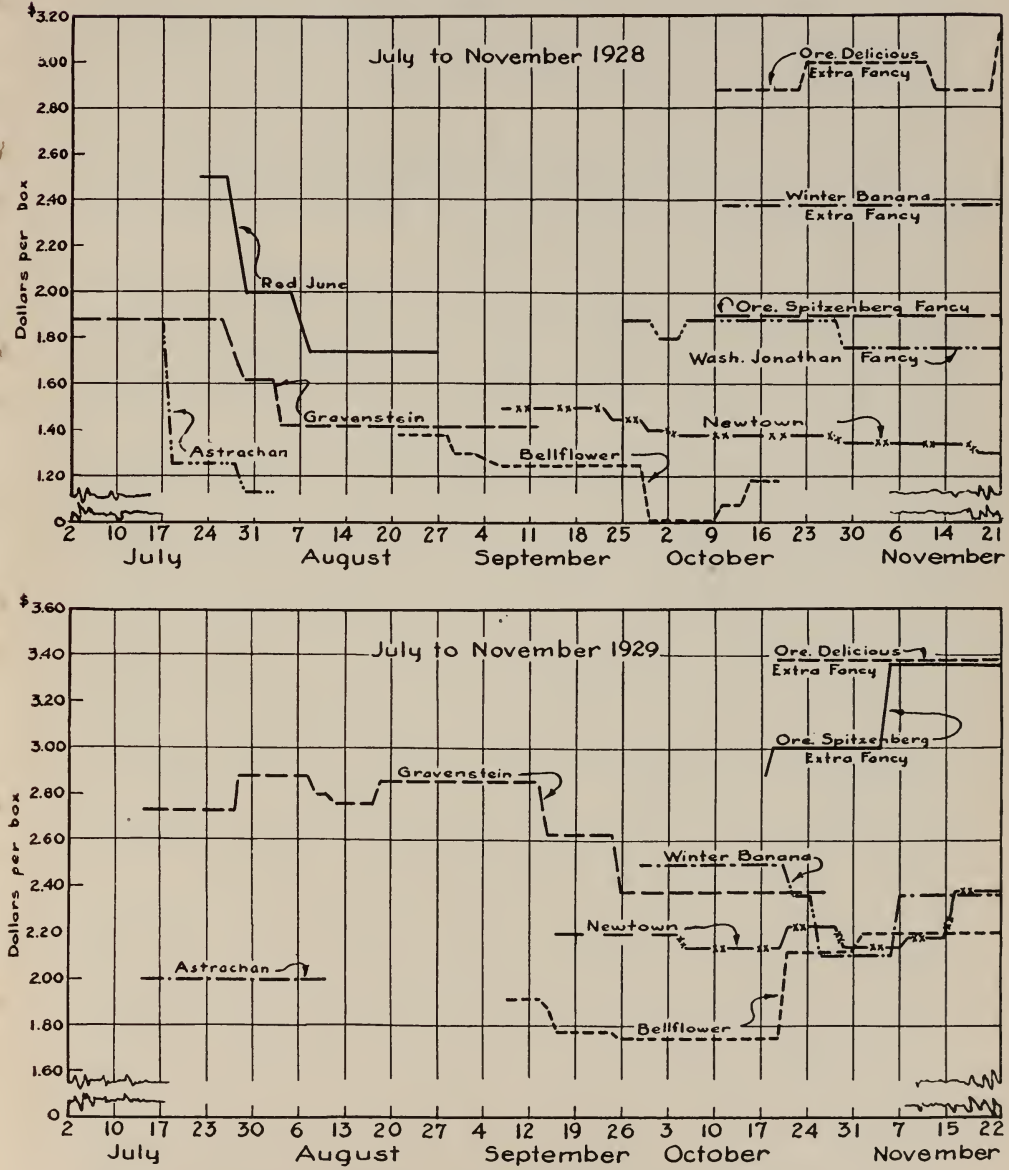



Fig. 14.—The San Francisco apple market is relatively stable; prices for given varieties remain unchanged for considerable periods. When prices change the prices of all varieties tend to move in the same general direction. (See also fig. 13.) (Data from Daily Market News Service Reports, Bur. Agr. Econ. San Francisco, Calif.)

*Seasonal Apple Prices.*—It has been shown above that the general level of apple prices is influenced to a large extent by total supplies. Within a given season, however, apple prices fluctuate considerably as a result of a number of factors. Hence the actual price movement is never exactly alike in any two seasons. However, there is a tendency for prices to advance from September to May and then to decline from May to August.

*Wholesale Apple Prices at San Francisco.*—San Francisco is an important market for a considerable quantity of California apples. The prices prevailing in this market are, therefore, of interest and importance to California apple growers.

Figures 13 and 14 present a comparison of wholesale apple prices at San Francisco by varieties for the period from early July to late November for the years 1926 to 1929. From these figures, observations as to the relative selling prices of varieties of apples may be made.

It is at once apparent that Astrachans sell at a discount compared with Gravensteins. On the other hand Red Junes bring a considerable premium. Again it is evident that the San Francisco market pays a premium for Newtowns as compared with Bellflowers. Furthermore, it will be seen that the Delicious is the highest in price in most cases, being equalled in price only in November, 1929, by the Spitzenburg. However, the Spitzenburg is a favorite in the San Francisco market second only to the Delicious in most instances. The position of the Winter Banana is interesting. It sells at a premium compared with Newtowns and Bellflowers and in 1928 sold for more than the Spitzenburg. This indicates that the San Francisco Market does not discriminate against yellow varieties. The Jonathan occupies a middle position between the Spitzenburg and the Newtown.

A few points worthy of note brought out by figures 13 and 14 in addition to the relative prices for various varieties are: (1) The San Francisco market is a relatively stable market; prices for given varieties remain unchanged for considerable periods; (2) Gravensteins sell to advantage in this market even when in competition with late varieties; (3) prices of all varieties tend to move in the same general direction.

*Wholesale Prices and Supplies at Los Angeles.*—The Los Angeles market is the most important California market for apples from the Watsonville district.[39] Hence, prices in this market are of more than

[39] Beasley, C. H. Production, standardization and marketing of California apples. California Dept. Agr. Mo. Bul. 16(10):512. 1921.

passing interest to growers and shippers in this district. Sebastopol growers are also interested in the Los Angeles market owing to the fact that considerable quantities of Gravensteins are sold there.

An attempt to compare relative prices for various varieties in the Los Angeles market for a period of years proved futile because quotations were not on a comparable basis. California apples are sold loose in unlidded boxes, Idaho apples are sold in baskets, while North-

WHOLESALE APPLE PRICES AND TRACK HOLDINGS AT LOS ANGELES JULY TO NOVEMBER, 1929

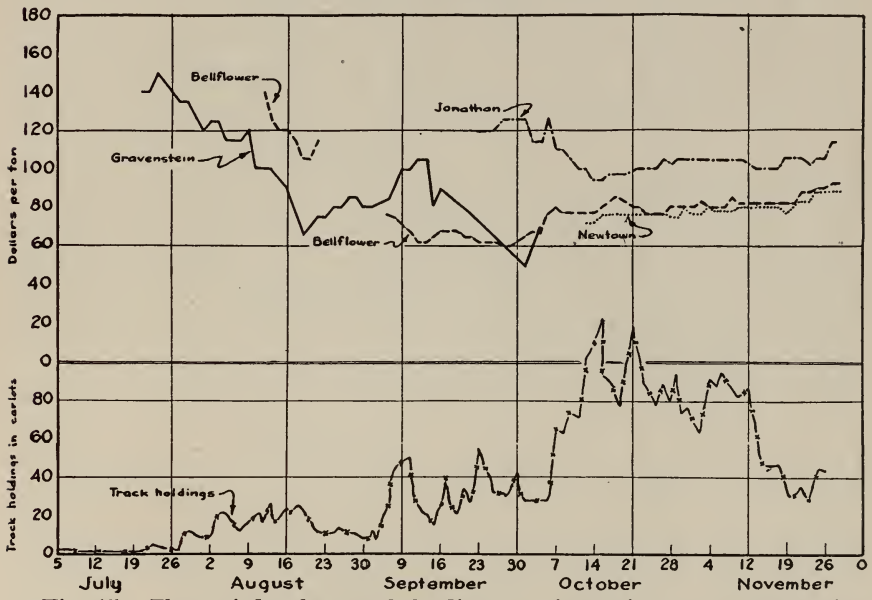



Fig. 15.—The periods when track holdings are increasing are usually periods of declining prices on the Los Angeles market. (Data from Daily Market News Service Reports, Bur. Agr. Econ., Los Angeles, Calif.)

west apples are sold packed and wrapped. Furthermore grades were not readily comparable. The bulk of California apples were of the 'Combination' grade, Idaho apples were principally of the 'Fancy' grade,[40] while Northwest apples were largely of the 'extra fancy' grade. However, figure 15, constructed from data available for the 1929 season, gives some idea of the relative position of the various varieties of apples on the Los Angeles market. Here it will be noted that Jonathans and Bellflowers are preferred varieties. The Bellflower, it will be seen, sells at a premium over the Newtown. Thus there is a marked contrast in the relative position of these two varie-

[40] The Idaho grade was called 'Combination' but corresponded to the California 'Fancy' grade.

## TABLE 99

GRAVENSTEIN APPLE PRICES AND QUANTITY SOLD AT AUCTION IN NEW YORK BY 10-DAY PERIODS, 1922–1929*

| Year | July | | | | | | August | | | | | | September | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1st 10 days | | 2nd 10 days | | 3rd 10 days | | 1st 10 days | | 2nd 10 days | | 3rd 10 days | | 1st 10 days | | 2nd 10 days | | 3rd 10 days | |
| | Price | Quantity | Price | Quantity | Price | Quantity | Price | Quantity | Price | Quantity | Price | Quantity | Price | Quantity | Price | Quantity | Price | Quantity |
| | *dollars per box* | *boxes* | *dollars per box* | *boxes* | *dollars per box* | *boxes* | *dollars per box* | *boxes* | *dollars per box* | *boxes* | *dollars per box* | *boxes* | *dollars per box* | *boxes* | *dollars per box* | *boxes* | *dollars per box* | *boxes* |
| 1922 | ..... | ..... | ..... | ..... | ..... | ..... | 2.78 | 430 | 2.60 | 4,386 | 2.15 | 17,870 | 1.89 | 17,010 | 1.53 | 26,325 | 1.65 | 9,720 |
| 1923 | ..... | ..... | ..... | ..... | 2.97 | 18,200 | 1.92 | 18,270 | 2.15 | 22,895 | 2.15 | 27,080 | ..... | ..... | ..... | ..... | ..... | ..... |
| 1924 | ..... | ..... | ..... | ..... | 2.75 | 9,615 | 2.86 | 17,575 | 2.72 | 35,250 | 2.83 | 23,076 | 3.06 | 8,860 | ..... | ..... | ..... | ..... |
| 1925 | ..... | ..... | ..... | ..... | 2.89 | 6,040 | 3.01 | 12,800 | 3.56 | 10,155 | 3.74 | 2,610 | ..... | ..... | ..... | ..... | ..... | ..... |
| 1926 | ..... | ..... | 2.68 | 14,600 | 1.99 | 69,450 | 1.64 | 62,260 | 1.97 | 34,865 | 2.18 | 15,935 | ..... | ..... | ..... | ..... | ..... | ..... |
| 1927 | ..... | ..... | ..... | ..... | ..... | ..... | 4.13 | 7,290 | 3.59 | 15,360 | 3.13 | 29,990 | 2.84 | 11,615 | 2.87 | 3,075 | ..... | ..... |
| 1928 | ..... | ..... | 2.61 | 3,304 | 2.00 | 35,729 | 1.82 | 60,610 | 1.81 | 48,021 | 1.95 | 84,712 | 2.49 | 40,327 | 2.53 | 14,812 | 2.05 | 1,889 |
| 1929 | ..... | ..... | ..... | ..... | ..... | ..... | 4.06 | 17,040 | 3.26 | 28,835 | 3.29 | 35,710 | 2.84 | 37,065 | 2.37 | 29,175 | 1.88 | 9,625 |

*Data compiled from daily report on deciduous fruits, New York Daily Fruit Reporter. Courtesy Stewart Fruit Company, San Francisco, California.

ties on the Los Angeles market as compared with the San Francisco market. (See page 54.)

The influence of market supplies on prices at Los Angeles is also illustrated in figure 15. The periods of heavy track holdings are usually periods of declining prices. Los Angeles has been called a 'pocket' market (page 73), which, no doubt, accounts for the fact that track holdings have such an important influence on prices. Once supplies are on the Los Angeles market they must be sold or put into storage for they cannot be advantageously diverted to other markets. It is important to growers and shippers, therefore, that shipments to Los Angeles should not be excessive at any one time. Watsonville shippers already realize this and it is the aim of the Watsonville Apple Packers and Growers Association to regulate the flow of apples to the market. (See page 115.)[41]

*Auction Prices for California Gravensteins and Supplies of These in New York.*—The New York market is an important one for California Gravensteins. As was shown in the survey of New York wholesalers' and jobbers' operations (page 12) the California Gravenstein was considered as the only early eating apple reaching that market. It was also brought out in the survey of Sebastopol shippers (page 103) that most shippers sold some of their pack on the New York market.

Practically all of the California Gravensteins sold in New York in carloads are sold on the New York auction. This fact has led several to believe that there might be an opportunity to realize higher prices for Gravenstein apples on the New York market if the quantity offered on the New York auction were regulated by shippers. In order to obtain information on this point, data covering prices and quantities on the New York auction market were collected. These are presented in table 99 and figure 16.

It is evident from figure 16 that in some years, as in 1926 and 1928, there is considerable relation between the quantity sold at auction and prices but that in other years, as in 1923 and 1929, there is little or no relation between the two. Again, in some years prices seem to be influenced by California supplies during a part of the season, but are independent of such supplies during the remainder of the season.

---

[41] Certain other studies have also shown the importance of carlots on track as a price influence. See Rauchenstein, E. Factors affecting the price of watermelons at Los Angeles. Hilgardia 3:310. 1928; and Hedden, W. P. Studies of market supply, price, and sales as a basis for control of distribution of perishables. Jour. Farm Econ. 8(2):213–226. 1926.

GRAVENSTEIN PRICES AND QUANTITIES SOLD AT AUCTION IN NEW YORK BY TEN-DAY PERIODS, 1922–1929

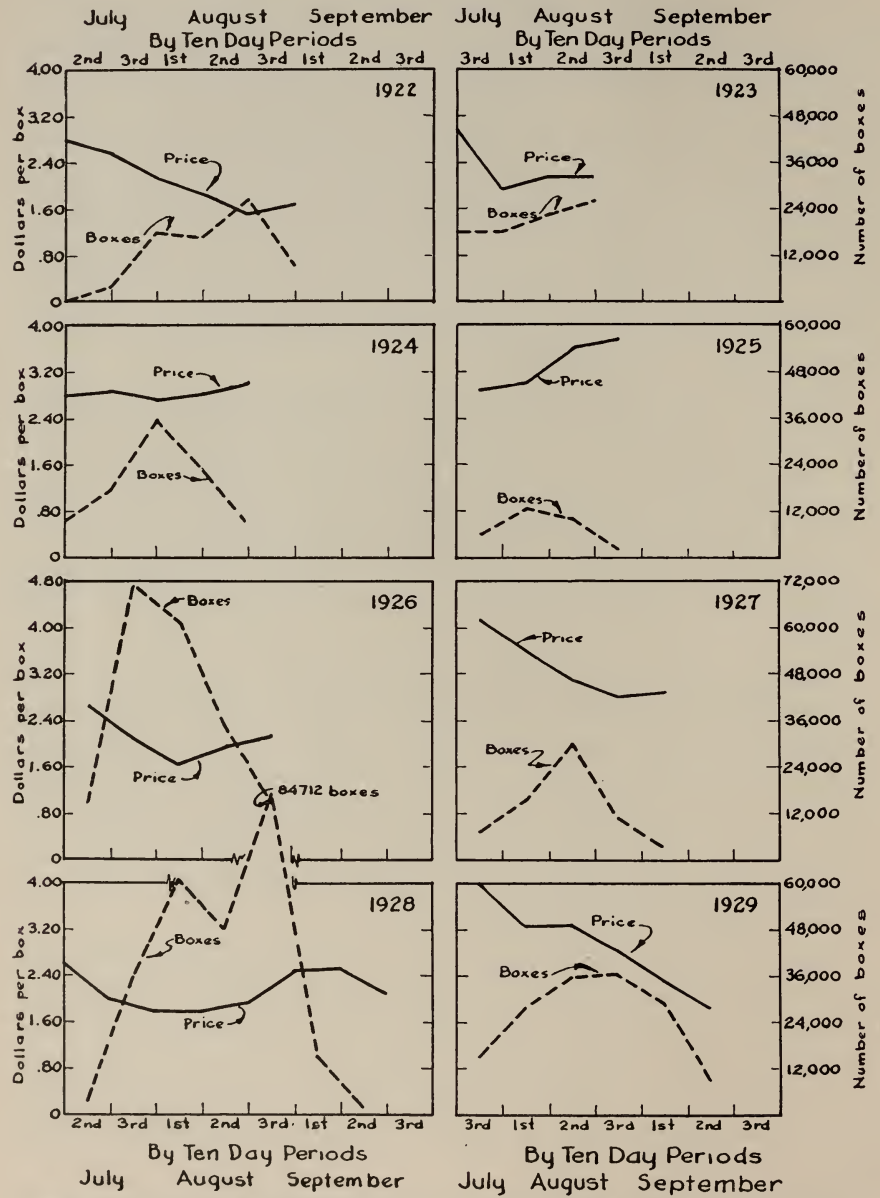



Fig. 16.—Prices of Gravensteins on the New York market are influenced not only by quantities of Gravensteins sold but by other factors as well. (Based on table 99.)

The general lack of correlation between quantity sold and prices is accounted for by the fact that the California Gravenstein is on the market at a time of the year when several soft fruits are available and by the fact that apples from other sources, such as cold-storage apples early in the season, local supplies during the season, and apples from the Northwest late in the Gravenstein season, influence prices for Gravensteins. Controlling shipments of Gravensteins to the New York auction market offers little opportunity, therefore, of influencing prices to any marked extent.

GRAVENSTEIN PRICES, NEW YORK AUCTION, JULY TO SEPTEMBER, 1928, BY BRANDS. AVERAGE OF SIZES, 113'S TO 150'S

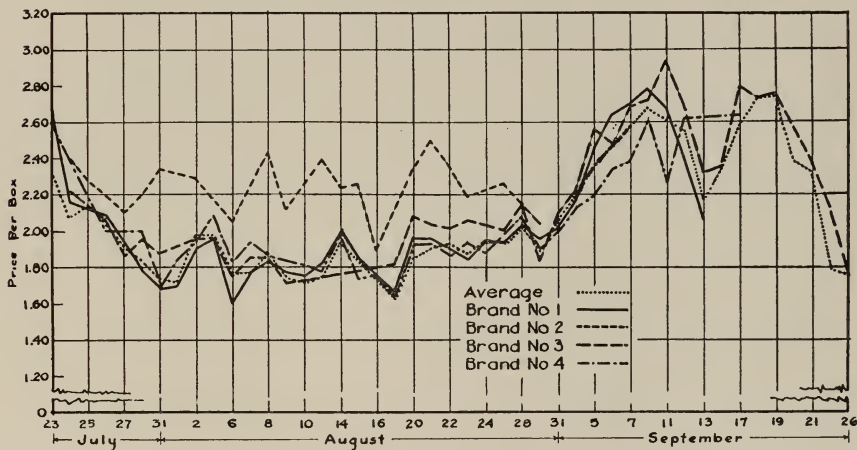



Fig. 17.—Prices obtained at the New York auctions for given brands are not consistent. Only one brand stood out consistently as distinctly superior. (Data from daily reports on deciduous fruits, New York Daily Fruit Reporter. Courtesy Stewart Fruit Co., San Francisco, Calif.)

It will also be noted from figure 16 that in most years prices during the early part of the season are the highest. This gives evidence of the fact that the Gravenstein deal is a quick one because during the early part of the season the quality is not the best. The outstanding exception to the high-price situation early in the season was the year 1925. This was, however, a year of light production for the California Gravenstein, supplies being sold before apples from the Northwest were available. The tendency for the New York prices to be high early in the season has induced shippers to send a part of their pack to New York at the earliest possible date. Some of these shipments have lacked color and maturity and this has no doubt been responsible to some extent for the general tendency for the New York prices to decline during the middle of the season.

TABLE 100—RETAIL PRICES (IN CENTS, PER POUND) FOR GRAVENSTEIN APPLES OF FANCY, GOOD, AND POOR QUALITY IN SAN FRANCISCO AND EAST BAY CITIES ON WEDNESDAY OF EACH WEEK—JULY 17 TO OCTOBER 30, 1929

| Store type | July 17 | | | July 24 | | | July 31 | | | August 7 | | | August 14 | | | August 21 | | | August 28 | | | September 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor |
| Chain | ..... | 7.0 | 8.3 | ..... | 7.0 | 8.3 | ..... | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | ..... | 6.0 | 6.0 | ..... | 6.0 | 5.0 | ..... | 6.2 | 6.0 | 8.3 | 6.0 | 6.2 |
| | ..... | 8.0 | 10.0 | ..... | 7.5 | 8.3 | ..... | 7.0 | 7.5 | ..... | 7.5 | 8.3 | ..... | 6.2 | 7.0 | ..... | 7.0 | 6.2 | ..... | 7.0 | 6.2 | ..... | 6.0 | 6.2 |
| | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 7.5 | ..... | ..... | 7.5 | ..... | ..... | 7.0 | 7.0 | ..... | 7.0 | 6.2 | ..... | 8.3 | 7.0 | ..... | 6.2 | 7.0 |
| | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.0 | ..... | ..... | 8.0 | ..... | ..... | 7.0 | 7.5 | ..... | 7.5 | 7.0 | ..... | 8.3 | 7.5 | ..... | 8.3 | 7.5 |
| | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 7.0 | 7.5 | ..... | 8.3 | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 |
| | ..... | 10.0 | ..... | ..... | 10.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | 8.3 | ..... | 8.3 | ..... | ..... | ..... | 8.3 | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | 10.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Independent retail | 12.5 | 8.3 | 8.3 | ..... | 6.2 | 6.2 | 10.0 | 4.2 | 7.5 | 8.3 | 5.0 | 4.2 | 8.3 | 4.2 | 6.2 | 4.8 | 6.2 | 5.0 | 7.2 | 6.2 | 5.0 | 6.5 | 6.0 | 4.2 |
| | 15.0 | 8.3 | 10.0 | ..... | 6.2 | 8.3 | ..... | 5.0 | ..... | 8.3 | 7.5 | 7.5 | ..... | 6.2 | 6.2 | 6.2 | 6.2 | 8.3 | 10.4 | 6.2 | 6.2 | 8.3 | 6.2 | 6.2 |
| | ..... | 8.3 | ..... | ..... | 6.2 | ..... | ..... | 6.2 | ..... | 10.0 | 7.5 | 7.5 | ..... | 6.2 | 6.2 | ..... | 6.2 | ..... | 12.0 | 7.5 | 8.3 | 8.3 | 6.2 | 6.2 |
| | ..... | 10.0 | ..... | ..... | 7.5 | ..... | ..... | 6.2 | ..... | 12.9 | 7.5 | 8.3 | ..... | 6.2 | 6.2 | ..... | 7.5 | ..... | ..... | 7.5 | 8.3 | 8.3 | 6.2 | ..... |
| | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | 7.5 | ..... | ..... | 8.0 | 8.3 | ..... | 6.2 | 6.2 | ..... | 7.5 | ..... | ..... | 8.3 | ..... | ..... | 7.5 | ..... |
| | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | 8.0 | ..... | ..... | 8.3 | 8.3 | ..... | 7.5 | 6.2 | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... |
| | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | 10.0 | ..... | 7.5 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | 8.3 | ..... |
| | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | 10.0 | ..... | 7.5 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 10.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 12.5 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | 8.3 | ..... | ..... | 8.3 | ..... | ..... | 10.0 | ..... | ..... | 10.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | 10.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | 10.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | 12.5 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Fruit stores | 12.9 | 6.2 | 4.1 | 7.5 | 3.3 | 3.3 | 7.5 | 3.7 | 2.1 | 6.5 | 6.2 | 3.4 | 4.0 | 4.8 | 3.7 | 7.5 | 4.0 | 5.0 | 7.5 | 5.0 | 3.2 | 4.8 | 4.2 | 5.0 |
| | 12.9 | 6.2 | 5.0 | 8.3 | 5.0 | 4.2 | 8.3 | 5.0 | 3.3 | 7.5 | 7.1 | 3.7 | 4.0 | 5.0 | 4.6 | 8.3 | 4.8 | 5.3 | 8.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| | 16.1 | 8.3 | 7.5 | 15.6 | 5.0 | 4.2 | 8.3 | 5.0 | ..... | 8.3 | 7.5 | 4.1 | 5.7 | 5.0 | 5.0 | 9.5 | 5.0 | 6.5 | 8.3 | 5.6 | 8.3 | 6.2 | 7.5 | 5.6 |
| | 15.6 | 8.3 | ..... | ..... | 6.6 | 7.5 | 8.3 | 6.2 | ..... | 8.3 | 8.3 | 5.0 | 6.4 | 6.2 | ..... | 9.5 | 7.5 | ..... | 8.3 | 6.2 | ..... | 8.0 | 8.1 | ..... |
| | ..... | ..... | ..... | ..... | 7.5 | 7.5 | 12.9 | 6.5 | ..... | 9.5 | 8.3 | 5.0 | 7.5 | 6.2 | ..... | 12.9 | 8.3 | ..... | 8.3 | 6.2 | ..... | 8.0 | 8.3 | ..... |
| | ..... | ..... | ..... | ..... | 8.3 | 8.3 | 19.1 | 6.5 | ..... | 10.5 | 8.3 | 6.2 | 8.3 | 6.2 | ..... | 11.9 | 8.3 | ..... | 9.5 | 6.2 | ..... | 8.0 | 15.0 | ..... |
| | ..... | ..... | ..... | ..... | 8.3 | ..... | 11.2 | 7.5 | ..... | 12.9 | 8.3 | 8.1 | ..... | 6.4 | ..... | 13.2 | 8.3 | ..... | 9.8 | 9.7 | ..... | 8.3 | ..... | ..... |
| | ..... | ..... | ..... | ..... | 9.5 | ..... | 18.5 | 8.3 | ..... | 13.1 | 9.7 | ..... | ..... | 6.5 | ..... | 15.8 | 8.3 | ..... | 10.0 | ..... | ..... | 9.6 | ..... | ..... |
| | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | 8.3 | ..... | 15.8 | ..... | ..... | ..... | 6.5 | ..... | 16.1 | 8.3 | ..... | 12.1 | ..... | ..... | 9.7 | ..... | ..... |
| | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | 7.5 | ..... | ..... | 8.3 | ..... | 12.9 | ..... | ..... | 10.4 | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | 12.9 | ..... | ..... | 10.5 | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 11.9 | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 12.2 | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 12.9 | ..... | ..... |
| Public stall | 6.4 | 6.2 | 8.3 | 5.3 | 4.8 | 5.0 | 5.6 | 6.5 | 3.0 | 6.5 | 4.8 | ..... | 4.0 | 4.8 | 4.6 | 6.5 | 4.0 | 4.8 | 8.1 | 4.5 | ..... | 6.5 | 3.1 | ..... |
| | ..... | 8.3 | 10.0 | ..... | 6.5 | 7.5 | 6.5 | 7.5 | 4.8 | 7.4 | 4.8 | ..... | 4.0 | 6.4 | ..... | 8.3 | 5.0 | ..... | 8.1 | 5.0 | ..... | 8.1 | 6.6 | ..... |
| | ..... | 10.0 | ..... | ..... | 7.3 | ..... | ..... | ..... | 5.0 | ..... | ..... | ..... | 5.7 | 6.5 | ..... | 11.3 | ..... | ..... | ..... | ..... | ..... | ..... | 7.9 | ..... |
| | ..... | ..... | ..... | ..... | 7.5 | ..... | ..... | ..... | 6.5 | ..... | ..... | ..... | 6.4 | 6.6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

TABLE 100—*Concluded*

| Store type | September 11 | | | September 18 | | | September 25 | | | October 2 | | | October 9 | | | October 16 | | | October 23 | | | October 30 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor | Fancy | Good | Poor |
| Chain | ..... | 7.0 | 5.0 | 12.1 | 5.2 | 5.0 | 4.6 | ..... | 3.0 | 8.3 | ..... | ..... | ..... | 5.0 | 5.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 7.0 | 5.0 | ..... | 6.2 | 6.0 | ..... | ..... | 4.2 | ..... | ..... | ..... | ..... | 5.0 | 5.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 8.3 | 6.0 | ..... | 7.0 | 6.2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 8.3 | 6.0 | ..... | 8.3 | 7.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 10.0 | 6.2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | 6.2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Independent retail | 8.1 | 6.2 | 4.2 | ..... | 4.0 | 8.3 | ..... | ..... | 6.2 | 12.0 | 5.2 | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 6.2 | 4.2 | ..... | 6.2 | 8.3 | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 6.2 | 4.2 | ..... | 6.2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 6.2 | 8.3 | ..... | 6.2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 6.2 | ..... | ..... | 7.5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 6.2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 7.5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Fruit stores | 7.1 | 2.7 | 4.8 | 6.4 | 4.6 | 3.2 | 8.3 | 6.2 | 4.6 | 5.0 | 6.6 | ..... | ..... | 3.8 | ..... | ..... | 5.2 | ..... | ..... | 5.7 | ..... | ..... | 5.2 | ..... |
| | 9.7 | 3.7 | 4.8 | 6.6 | 6.6 | 3.5 | 9.2 | 6.6 | ..... | ..... | 6.6 | ..... | ..... | 6.5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 10.0 | 4.0 | 5.0 | 8.1 | 11.1 | 5.0 | 9.5 | ..... | ..... | ..... | ..... | ..... | ..... | 10.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 11.9 | 5.0 | ..... | 9.5 | ..... | 6.2 | 10.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 12.0 | 5.0 | ..... | 10.0 | ..... | 6.2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 12.9 | 6.2 | ..... | ..... | ..... | 15.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 7.9 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Public stall | 6.4 | 2.7 | 3.5 | 6.4 | 6.6 | ..... | 6.0 | ..... | ..... | 7.2 | 4.5 | ..... | 4.3 | 8.6 | ..... | ..... | 4.2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 6.4 | 5.0 | ..... | 6.6 | ..... | ..... | ..... | ..... | ..... | 8.3 | ..... | ..... | ..... | ..... | ..... | ..... | 8.6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 8.1 | 5.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 8.6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 8.1 | 6.6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 8.6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

*Daily New York Auction Prices.*—Daily prices for Gravenstein apples on the New York auction vary to a considerable extent. Size, pack, grade, and general condition, are the principal factors determining prices for various lots of apples. Shippers watch auction sales closely and often attach considerable importance to the fact that a particular brand 'tops the market.' However, as is shown in figure 17, most shippers' packs are not consistent in quality as is evidenced by the fact that on some days a particular brand will sell above, and on other days below the average. Only one shipper (No. 2) realized prices consistently above the average. His pack is widely known as being of highest quality. Figure 17 is based on data for 1928. Data for 1929 shows a similar situation.

## RETAIL PRICES OF APPLES

Retail prices of apples were reported on Wednesday of each week in a number of cities in California by farm advisors, horticultural commissioners, agricultural high school teachers, secretaries of chambers of commerce, and others interested in this study. In addition, routes were established in San Francisco, Los Angeles, and East Bay cities covering the principal retail sections. Employees recorded apple prices on these routes weekly.[42]

The most striking characteristic of prices of apples at retail is their wide variation. Several weekly analyses of price data were made for different localities, including the San Francisco and East Bay region, Los Angeles, and the state of California as a whole. Each of these analyses showed a wide range in prices each week, centering around a general trend. Several factors influenced the variation in prices, chief among which were quality, variety, and type of store in which the apples were sold.

*Variation Due to Quality.*—An example of the variaton in retail prices due to quality is shown in table 100. The frequency of retail price quotations for Gravenstein apples of fancy, good, and poor quality are shown in connection with the price range. It will be noted that the apples of fancy quality are most frequently in the upper portion of the price range, while those of poor quality are usually in the lower portion of the price range.[43]

[42] The results presented herewith cover only the data obtained up to November 1, 1929. The routes were maintained beyond that date and a separate report covering the main part of the 1929–30 apple season is contemplated.

[43] The original prices were recorded for fancy, good, fair, and poor quality. Since there was little difference in prices for good and fair quality the prices were combined.

When weekly averages of quotations for the three qualities, fancy, good, and poor are computed, the relation between prices for these qualities is apparent (table 101). Throughout the entire period, Gravenstein apples of fancy quality sold for approximately 2 cents a pound more than those of good quality. There was a smaller differential between apples of good and poor quality. During the early part of the season the differential was approximately 1 cent a pound but toward the end of the season the prices of the two qualities were close together.

TABLE 101

Average Weekly Retail Price of Gravenstein Apples of Fancy, Good and Poor Quality in San Francisco and East Bay Cities, July 17 to October, 1929*

| Date | Quality | | |
|---|---|---|---|
| | Fancy | Good | Poor |
| | *cents per pound* | *cents per pound* | *cents per pound* |
| July 17 | 13.0 | 8.9 | 8.0 |
| 24 | 9.2 | 8.1 | 6.5 |
| 31 | 10.6 | 7.6 | 5.4 |
| Aug. 7 | 9.5 | 7.9 | 6.8 |
| 14 | 9.3 | 7.2 | 6.7 |
| 21 | 10.1 | 7.4 | 6.2 |
| 28 | 9.6 | 6.7 | 6.7 |
| Sept. 4 | 8.5 | 7.1 | 6.2 |
| 11 | 9.2 | 6.5 | 5.2 |
| 18 | 8.2 | 6.6 | 6.6 |
| 25 | 7.9 | 6.4 | 5.3 |
| Oct. 2 | 10.2 | 5.8 | 8.3 |
| 9 | 4.3 | 6.5 | 5.0 |
| 16 | ..... | 6.0 | ..... |
| 23 | ..... | 5.7 | ..... |
| 30 | ..... | 5.2 | ..... |

*From original data gathered in this study.

Retail prices of the several varieties of apples showed different levels and movements. Table 102 and figure 18 present the average of prices for good and fair quality by variety. There was a tendency for prices of some varieties to move in the same direction while prices for other varieties moved in opposite directions. The Delicious, Winter Banana, and Spitzenburg showed a strong upward price toward the end of the period under observation, while Jonathans, Newtowns, Bellflowers, and Gravensteins declined in price. Those varieties showing the higher level of prices are the strictly eating varieties while those in the lower levels are used for culinary purposes as well as for eating.

TABLE 102

AVERAGE WEEKLY RETAIL PRICE OF APPLES OF GOOD AND FAIR QUALITY IN SAN FRANCISCO AND EAST BAY CITIES, JULY 17 TO OCTOBER 30, 1929

| Date | Variety | | | | | | |
|---|---|---|---|---|---|---|---|
| | Gravenstein | Newtown | Bellflower | Jonathan | Winter Banana | Delicious | Spitzenberg |
| | *Cents per pound* | *Cents per pound* | *Cents per pound* | *Cents per pound* | *Cents per pound* | *Cents per pound* | *Cents per pound* |
| July 17 | 8.9 | ..... | ..... | ..... | ..... | ..... | ..... |
| 24 | 8.1 | ..... | ..... | ..... | ..... | ..... | ..... |
| 31 | 7.6 | ..... | ..... | ..... | ..... | ..... | ..... |
| Aug. 7 | 7.9 | ..... | ..... | ..... | ..... | ..... | ..... |
| 14 | 7.2 | ..... | ..... | ..... | ..... | ..... | ..... |
| 21 | 7.4 | 8.4 | ..... | 8.3 | ..... | ..... | ..... |
| 28 | 6.7 | 8.4 | 8.3 | ..... | ..... | ..... | ..... |
| Sept. 4 | 7.1 | 5.4 | 6.2 | ..... | ..... | ..... | ..... |
| 11 | 6.5 | 4.7 | 7.0 | ..... | ..... | ..... | ..... |
| 18 | 6.6 | 5.4 | 7.0 | 7.3 | ..... | ..... | ..... |
| 25 | 6.4 | 5.9 | 6.2 | 7.9 | ..... | ..... | ..... |
| Oct. 2 | 5.8 | 5.4 | 6.2 | 7.0 | 6.2 | ..... | ..... |
| 9 | 6.5 | 6.3 | 6.8 | 7.2 | 6.0 | 7.7 | 6.2 |
| 16 | 6.0 | 6.5 | 6.1 | 7.1 | 7.9 | 7.4 | 6.1 |
| 23 | 5.7 | 7.2 | 7.0 | 7.6 | 7.2 | 11.1 | 7.0 |
| 30 | 5.2 | 6.8 | 6.8 | 6.4 | 9.9 | 12.0 | 9.8 |

RETAIL PRICES OF APPLES IN SAN FRANCISCO AND EAST BAY CITIES, JULY 17 TO OCTOBER 30, 1929

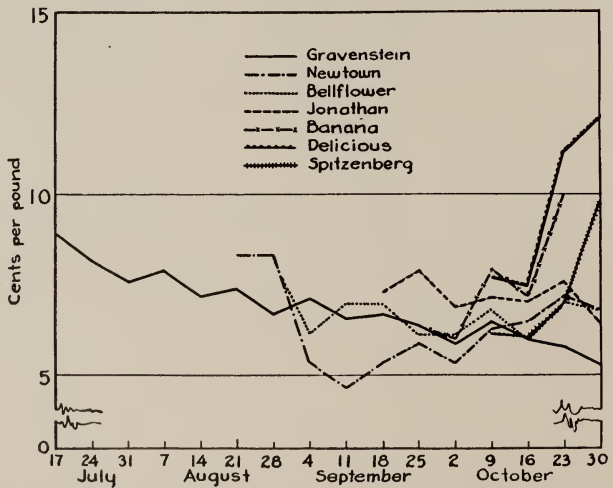



Fig. 18.—Retail prices of the several varieties offered in East Bay cities showed considerable variation from week to week. (Based on table 102.)

*Variation Due to Retail Medium.*—A third factor influencing retail price variations was the retail medium. Retail stores of different types apparently charge different prices for the same variety and quality of apple because of certain characteristics inherent in their organization. Chain stores and independent retail stores generally charged higher prices than fruit stores. This is illustrated in table

TABLE 103

Average Weekly Prices for Gravensteins of Good and Poor Quality* in Different Types of Stores in San Francisco and East Bay Cities, July 17 to October 30, 1929

| Date | Type of store | |
|---|---|---|
| | Chain and independent groceries† | Fruit stores |
| July 17 | 8.6 | 7.2 |
| 24 | 8.7 | 7.3 |
| 31 | 8.0 | 6.4 |
| Aug. 7 | 8.5 | 7.1 |
| 14 | 7.5 | 7.4 |
| 21 | 7.6 | 7.4 |
| 28 | 7.6 | 6.3 |
| Sept. 4 | 7.0 | 7.3 |
| 11 | 6.9 | 5.4 |
| 18 | 6.7 | 7.1 |
| 25 | 4.0 | 5.9 |
| Oct. 2 | 6.9 | 6.6 |
| 9 | 5.1 | 6.8 |
| 16 | ..... | 5.2 |
| 23 | ..... | 5.7 |
| 30 | ..... | 5.2 |

*In computing the averages, prices for poor quality apples were adjusted to put them on a good quality basis. Fancy quality was not included in the average because it was so infrequent in the chain and independent groceries as compared to the fruit store.

†There was so little difference in prices between chain and independent stores that the prices are combined.

103. It was only toward the end of the Gravenstein season when the quality of the apples was generally lower that the chain and independent grocery stores sold at lower prices than fruit stores. No doubt this situation is due to the fact that a fruit store must secure patronage by handling high quality at favorable prices. Chain and retail grocery stores are able to attract customers by leads in other commodities and are able to dispose of fruits at somewhat higher prices. This conclusion is supported by data obtained on the quality of fruit handled by the various types of stores. Table 104 shows the percentage and number of times Gravenstein apples of fancy, good, and poor quality were reported in San Francisco and East Bay cities.

Here it is shown that fruit stores and public stalls handled better quality apples than chain and independent grocery stores.[44] Hence top quotations for apples in chain and independent grocery stores are for apples of good quality while top quotations on apples at fruit stores and public stalls are for apples of fancy quality.

TABLE 104

NUMBER OF TIMES GRAVENSTEIN APPLES GRADES OF FANCY, GOOD, AND POOR QUALITY WERE REPORTED IN VARIOUS TYPES OF STORES, JULY 17 TO OCTOBER 30, 1929

| Store type | Quality | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Fancy | | Good | | Poor | | Total | |
| | *Number* | *Per cent* | *Number* | *Per cent* | *Number* | *Per cent* | *Number* | *Per cent* |
| Chain | 5 | 4.5 | 63 | 56.2 | 44 | 39.3 | 112 | 100 |
| Independent | 19 | 11.0 | 117 | 67.6 | 37 | 21.4 | 173 | 100 |
| Fruit | 81 | 38.0 | 91 | 42.8 | 41 | 19.2 | 213 | 100 |
| Public stall | 25 | 36.8 | 34 | 50.0 | 9 | 13.2 | 68 | 100 |

*The Effect of Consumers' Buying Habits on Retail Prices.*—The consumer buys apples in small lots (table 41, page 61). Hence retailers attempt to name a price for a quantity which suits the consumer's convenience. In doing so they have apparently chosen the 25-cent quotation as one of popular appeal and have varied the quantity sold at this quotation in accordance with wholesale prices for the several varieties of apples.

The frequency of the 25-cent quotation at retail stores is shown in table 105. For the sake of convenience and to bring out this point more clearly the quotations are referred to as 'card prices.' A 'card price' does not specify the quantity sold at that price but merely indicates the price at which sales were made. Here it is shown that the frequency of card prices of approximately 25 cents or less, for varieties such as Gravenstein, Bellflower, Jonathan, and Newtown, which are sold principally by the pound, range between 70 and 85 per cent of all card prices. Even for varieties such as Delicious and Spitzenburg, which are often sold by the dozen or by the piece, the 25-cent card price occurs frequently.

The 25-cent quotation appears to be common in the retailing of apples not only in California cities but in other cities. Jefferson,[45]

[44] Preliminary analysis of similar data on retail prices of other varieties and for other cities shows the same situation to prevail.

[45] Jefferson, Lorani P. The market outlet for Massachusetts apples. Massachusetts Agr. Exp. Sta. Bul. 231:13. 1927.

in discussing the marketing of Massachusetts, states: "Retailers reported that the customer seems to prefer to purchase 25 cents worth even though a better bargain be offered at slightly different amounts. For instance, more apples will be sold if 5 pounds are given for 25 cents than if 6 pounds are offered for 28 cents. It is reported by retailers that a real bargain at more than 25 cents or less than 25 cents will cause a falling off in volume of sales, whereas a reduction of the number of pounds offered for 25 cents will not materially affect the number of sales."

TABLE 105

Frequency of Card-Price Quotations for Apples in the San Francisco and East Bay Cities; July 17 to October 30, 1929

| Card price | Variety | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Gravensteins | | Bellflowers | | Jonathans | | Newtowns | | Delicious | | Spitzenburg | |
| | *Number* | *Per cent* | *Number* | *Per cent* | *Number* | *Per cent* | *Number* | *Per cent* | *Number* | *Per cent* | *Number* | *Per cent* |
| Less than 25 cents | 221 | 38.0 | 59 | 26.1 | 59 | 24.3 | 30 | 22.4 | 12 | 27.3 | 9 | 19.5 |
| 25 to 29.9 cents | 277 | 47.6 | 116 | 51.3 | 112 | 46.0 | 68 | 50.8 | 17 | 38.6 | 20 | 43.5 |
| 30 cents and over | 84 | 14.4 | 51 | 22.6 | 72 | 29.1 | 36 | 26.8 | 18 | 34.1 | 17 | 37.0 |
| Total | 582 | 100.0 | 226 | 100.0 | 243 | 100.0 | 134 | 100.0 | 44 | 100.0 | 46 | 100.0 |

The effect on fluctuations in retail prices of the tendency on the part of retailers to name prices centering around the 25-cent quotation is shown in table 106. Mean or average prices for Gravenstein apples are contrasted with modal prices, or prices which occur most frequently. These modal prices rise or decline less frequently than average prices. This is due to the fact that the majority of retailers do not raise or lower prices with every change in the wholesale price. Retail prices for Gravensteins started the season at 10 cents a pound, but soon declined to 8⅓ cents a pound or 3 pounds for a quarter. The next decline in retail prices was to 6¼ cents a pound or 4 pounds for a quarter.

It will also be noted from table 106 that average retail prices at Los Angeles showed a wider fluctuation than did average prices in San Francisco and East Bay cities. However, modal prices, though differently timed, were at approximately the same level.

*Retail Margins.*—It was noted in "Retailers' Operations and Practices" (page 71), that between 20 and 35 per cent was the gross

margin of profit (more correctly a percentage price spread) considered necessary by most retailers for handling apples. Los Angeles retailers were inclined to name a higher margin than retailers in other sections. The actual percentage price spread realized in handling Gravenstein apples varied between 15 and 50 per cent. (See table 107 and fig. 19.) For the greater part of the season retailers in Los Angeles obtained a gross margin or spread of 30 to 40 per cent of

TABLE 106

MEAN AND MODAL PRICES FOR GRAVENSTEIN APPLES AT RETAIL IN SAN FRANCISCO, EAST BAY CITIES AND LOS ANGELES, JULY 17 TO OCTOBER 30, 1929

| Date | San Francisco and East Bay cities | | Los Angeles | |
|---|---|---|---|---|
| | Mean | Mode | Mean | Mode |
| | *cents per pound* | *cents per pound* | *cents per pound* | *cents per pound* |
| July 17 | 9.4 | 10.0 | 12.5 | ..... |
| 24 | 7.8 | 8.3 | 12.2 | 10.0 |
| 31 | 7.9 | 8.3 | 10.8 | 10.0 |
| Aug. 7 | 8.0. | 8.3 | 9.2 | 8.3 |
| 14 | 7.5 | 8.3 | 8.4 | 8.3 |
| 21 | 7.8 | 8.3 | 7.0 | 8.3 |
| 28 | 7.7 | 8.3 | 6.2 | 6.2 |
| Sept. 4 | 7.5 | 6.2 | 6.3 | 5 0 |
| 11 | 6.7 | 6.2 | 7.5 | 8.3 |
| 18 | 7.0 | 6.2 | ..... | ..... |
| 25 | 6.7 | ..... | ..... | ..... |
| Oct. 2 | 7.4 | ..... | ..... | ..... |
| 9 | 5.9 | ..... | ..... | ..... |
| 16 | 6.0 | ..... | ..... | ..... |
| 23 | 5.7 | ..... | ..... | ..... |
| 30 | 5.2 | ..... | ..... | ..... |

retail prices. On the other hand, retailers in San Francisco and the East Bay cities realized a spread of between 20 and 30 per cent during most of the Gravenstein season. Thus actual spreads obtained in the two districts were approximately what the retailers considered necessary. See "Gross Margin of Profit Considered Necessary in Handling Apples" (page 71). Since actual retail prices were compared with officially reported wholesale prices the spreads obtained by individual retailers may be greater or less than those reported above, owing to the fact that some retailers, particularly those who are in a chain organization, purchase their supplies at lower prices than the reported wholesale price by making contacts with shippers, or by buying in carload lots. On the other hand, those who purchase from wagon jobbers may obtain smaller spreads than are indicated.

TABLE 107

Retailers' Spreads in Handling Gravenstein Apples in San Francisco and East Bay Cities and Los Angeles

| Date | San Francisco and East Bay cities | | | | Los Angeles | | | |
|---|---|---|---|---|---|---|---|---|
| | Retail price* | Wholesale price† | Price spread | Percentage price spread | Retail price‡ | Wholesale price† | Price spread | Percentage price spread |
| | *cents per pound* | *cents per pound* | *cents per pound* | *Per cent* | *cents per pound* | *cents per pound* | *cents per pound* | *Per cent* |
| July 17 | 13.0 | 6.9 | 6.1 | 47.0 | 12.5 | 8.5 | 4.0 | 32.0 |
| 24 | 9.2 | 6.9 | 2.3 | 25.0 | 12.2 | 7.5 | 4.7 | 38.5 |
| 31 | 10.6 | 7.2 | 3.4 | 32.0 | 10.8 | 6.5 | 4.3 | 39.8 |
| Aug. 7 | 9.5 | 7.2 | 2.3 | 24.2 | 9.2 | 5.75 | 3.45 | 37.5 |
| 14 | 9.3 | 6.9 | 2.4 | 25.8 | 8.4 | 5.0 | 3.4 | 40.5 |
| 21 | 10.1 | 7.2 | 2.9 | 28.7 | 7.0 | 3.5 | 3.5 | 50.0 |
| 28 | 9.6 | 7.2 | 2.4 | 25.0 | 6.2 | 4.25 | 1.95 | 31.5 |
| Sept. 4 | 8.5 | 7.2 | 1.3 | 15.3 | 6.3 | 4.0 | 2.3 | 36.6 |
| 11 | 9.2 | 7.2 | 2.0 | 21.8 | 7.5 | 5.25 | 2.25 | 30.0 |
| 18 | 8.2 | 6.6 | 1.6 | 19.5 | ..... | ..... | ..... | ..... |
| 25 | 7.9 | 6.6 | 1.3 | 16.5 | ..... | ..... | ..... | ..... |

*Data from table 101, column 1.

†Data from Daily Market News Service Reports. Bur. Agr. Econ. San Francisco and Los Angeles, California.

‡Data from table 106, column 3.

RETAILERS' SPREADS PREVAILING ON GRAVENSTEIN APPLES, JULY TO SEPTEMBER, 1929

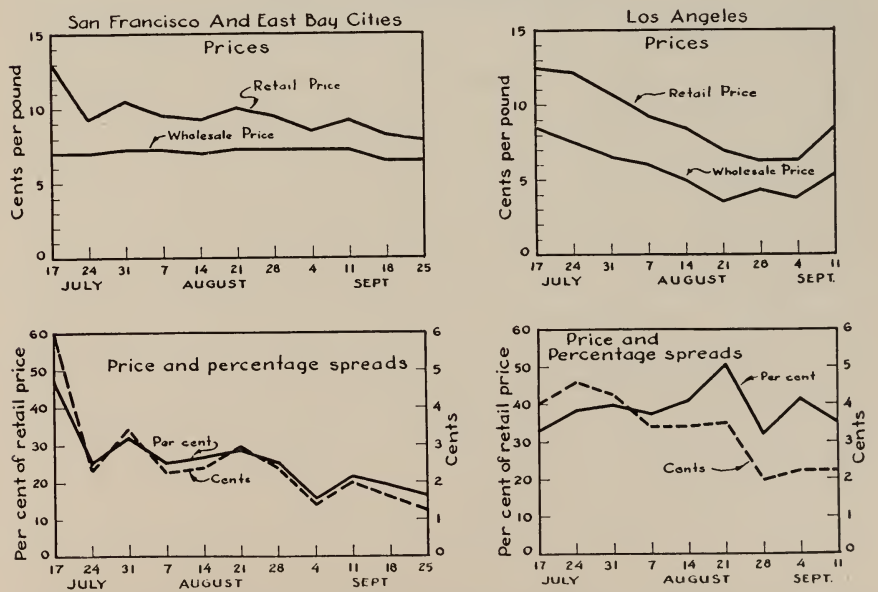



Fig. 19.—The difference or spread between retail and wholesale prices may be expressed in cents per unit or in per cent of retail price. In the lower portion of the above figure both methods are used.

The percentage margin or spread must not, however, be confused with the margin or spread in cents per pound. In table 107 and figure 19, the spread is also shown in cents per pound. This varied from approximately 1½ cents a pound to 6 cents a pound. It will be noted that the spread in cents per pound (price spread) declined as the Gravenstein season progressed. In Los Angeles, the fall in spreads accompanied the decline in both retail and wholesale prices. The same situation prevailed in the San Francisco and East Bay cities but the decline in wholesale prices was not as marked as in Los Angeles.

There is a tendency for retailers to seek to maintain spreads at about a constant amount per sale. To the extent that they can do this the percentage of spread to retail price will rise as retail prices fall. This situation was found to exist especially in the Los Angeles market (table 107 and fig. 19). The tendency for the percentage price spread to rise as prices fall has been shown to prevail in the retailing of certain other perishable commodities.[46]

## ACKNOWLEDGMENTS

The authors are indebted to representatives of various agencies for information upon which this bulletin is based. O. W. Holmes, Marketing Specialist of the Bureau of Agricultural Economics, San Francisco, California, made available to the authors data on cold-storage holdings. Dr. O. C. Stine of the same bureau at Washington, D. C., furnished data to complete price series. B. H. Critchfield, in charge of the California Division of Markets; E. C. Merritt, Manager of the Sebastopol Apple Growers Union; J. R. Durbin, Manager of the Gravenstein Apple Growers Cooperative Association, and H. A. Legault, of the Stewart Fruit Company gave the authors access to important price data. E. R. French of the Food Marketing Research Council; W. C. Hackleman, E. E. Conklin, K. S. Branch, G. R. Blunt, and W. H. Steinbauer, all of the Market News and Food Products Inspection Service, gave special assistance in the surveys of eastern markets. Farm advisors, horticultural commissioners, agricultural high school teachers, and secretaries of chambers of commerce, collected and reported retail prices.

H. A. Weinland, Farm Advisor of Sonoma County, and H. L. Washburn, Farm Advisor of Santa Cruz County, assisted in making the survey of shippers' operations and practices.

[46] See discussion by Erdman, H. E. American product markets. p. 367–374. D. C. Heath & Co., Chicago. 1920.

Martin H. Blank, Assistant in Agricultural Economics; L. D. Mallory, Research Assistant in the Division of Agricultural Economics, and A. H. Bledsoe, senior student in the College of Agriculture, assisted in the collection and analysis of the data. Mrs. Ruth Howe, Research Assistant in Agricultural Economics, assisted in the analysis of data collected in the consumer and retail price surveys.

Credit is also due to C. H. Beasley of the State Department of Agriculture; Edwin W. Gaumnitz and George K. York of the California Division of Markets; Wesley O. Ash of the United States Department of Commerce; Ralph H. Taylor of the Agricultural Legislative Committee of California; W. F. Allewelt of the United States Department of Agriculture; E. E. Everhart of the California Development Association, and E. J. Faul, Secretary of the Watsonville Apple Growers and Packers Association, for assistance in planning and conducting this study.

To Homer Harris, Secretary of the Associated Produce Dealers and Brokers of Los Angeles; O. W. Holmes, Marketing Specialist of the Bureau of Agricultural Economics at San Francisco, California, and F. W. Kroll of the firm of Jacobs, Malcolm, and Burtt of San Francisco, California, the authors wish to express their appreciation for the reading and criticism of the part of the manuscript covering the survey of wholesalers' and jobbers' operations and practices.

13*m*-12,'30